



DAR Q4 2022 Report: Digital Asset Ecosystem

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INTRODUCTION

In Q4 2022, the digital asset market experienced a significant drawdown in comparison to Q3 2022. The total digital asset market capitalization went from approximately \$1 trillion at the beginning of the quarter to ~\$850 billion by the end of 2022. Bitcoin started the quarter on a relatively positive note with its price soaring north of \$21,000 before retracing back to a low of \$15,700. During the same time period, the US Federal Reserve raised interest rates by 125 basis points (bps) in total, with increases of 75 bps in November and 50 bps in December, to further combat inflation.

The biggest crypto event in Q4 was the implosion of FTX, which happened on November 11. As one of the world's largest crypto exchanges with a peak private market valuation of \$32 billion, the fallout from FTX's collapse is an unprecedented event. Its bankruptcy proceedings include multiple entities and span across various jurisdictions. It also catalyzes conversations regarding the importance of due diligence and counterparty risks associated with centralized entities in the space.

As the "crypto winter" continues, digital asset market participants are also concerned by the possible contagion caused by FTX and other bankrupt entities. Centralized entities including crypto exchanges and prime brokerages have been under increasing scrutiny. Customers are demanding more clarity and transparency into these businesses' operational control and financial health.

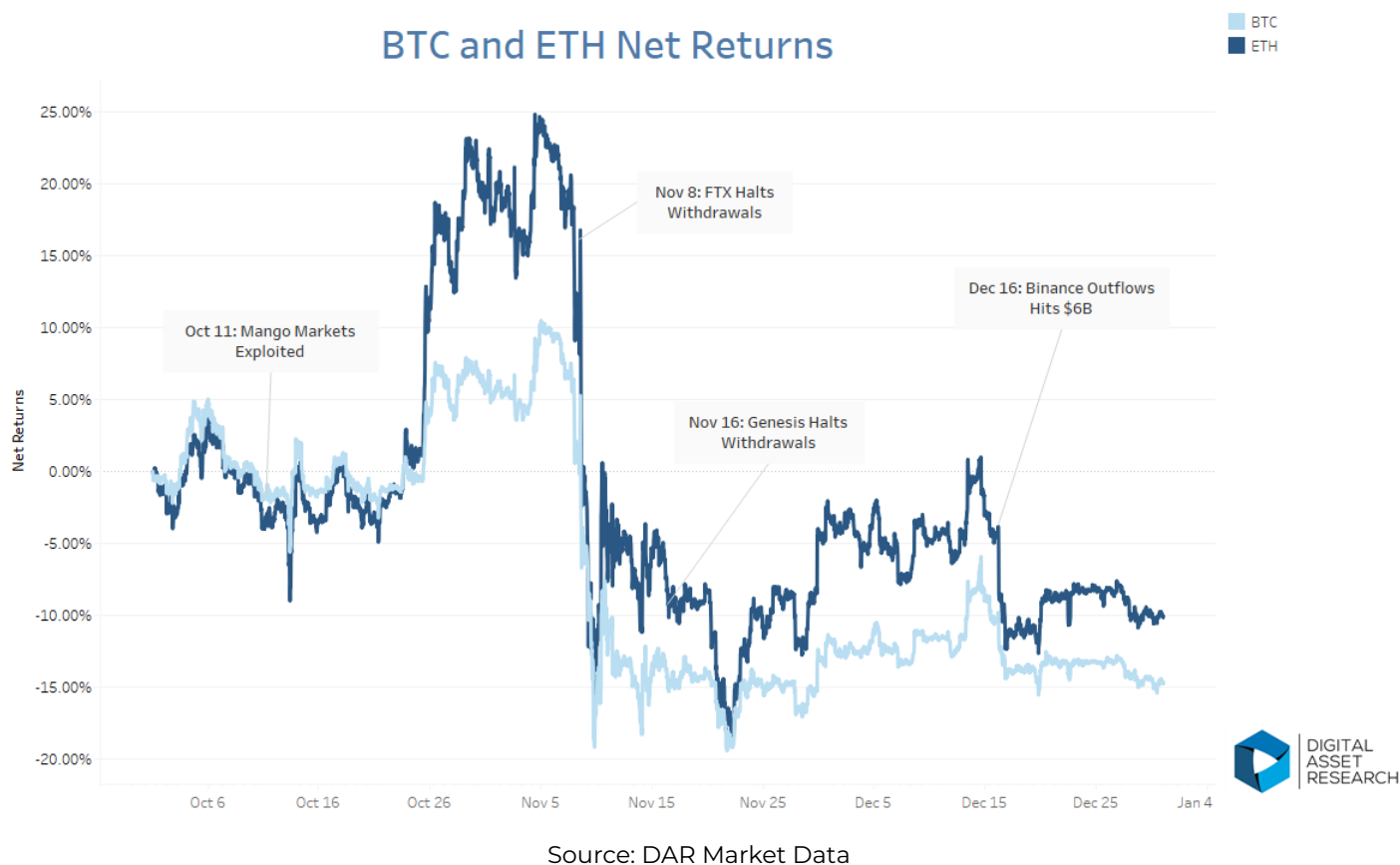
Regulators around the world are also continuing their efforts against bad actors in the digital asset space. Multiple bankruptcy proceedings, including those of Three Arrows Capital, FTX, Voyager, and Celsius, will set legal precedents for the broader digital asset industry.

In Digital Asset Research's (DAR's) quarterly report series, we break down the state of the digital asset market from the perspective of institutional market participants, highlight crucial events, and provide commentary on potential future developments. This report is meant for informational purposes only, and should not be construed as investment, financial, or legal advice.

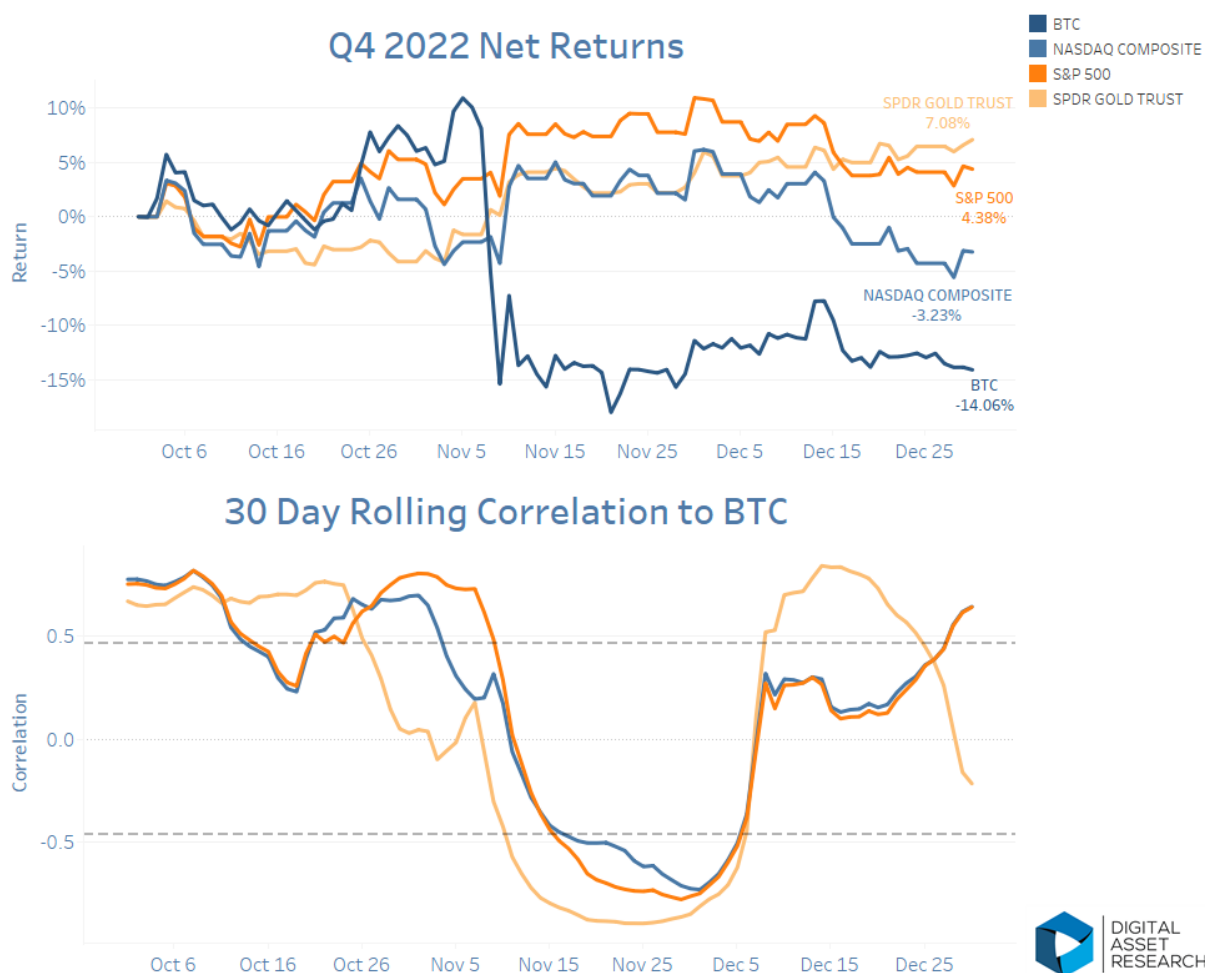
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WHAT HAPPENED IN Q4 2022



The fourth quarter of 2022 was eventful for the digital asset market. FTX's problem in early November spooked the broader market as the prices of BTC and ETH fell to a low of approximately -20% compared to the beginning of the quarter. The fear was then further exacerbated by Genesis halting withdrawals on November 16, with the market dropping approximately another 10% on the news.



Source: DAR Market Data, Tradingview

The charts above show that Bitcoin was trading relatively close to the broader market before the FTX trouble in November. The Nasdaq Composite, S&P 500, and gold all were positively correlated with Bitcoin in October when looking at a 30-day rolling correlation, but became uncorrelated and eventually negative correlated with Bitcoin in November after the FTX collapse.

FTX Exchange Collapse

The chart above shows that Bitcoin was trading relatively close to the broader market before the FTX trouble in November.

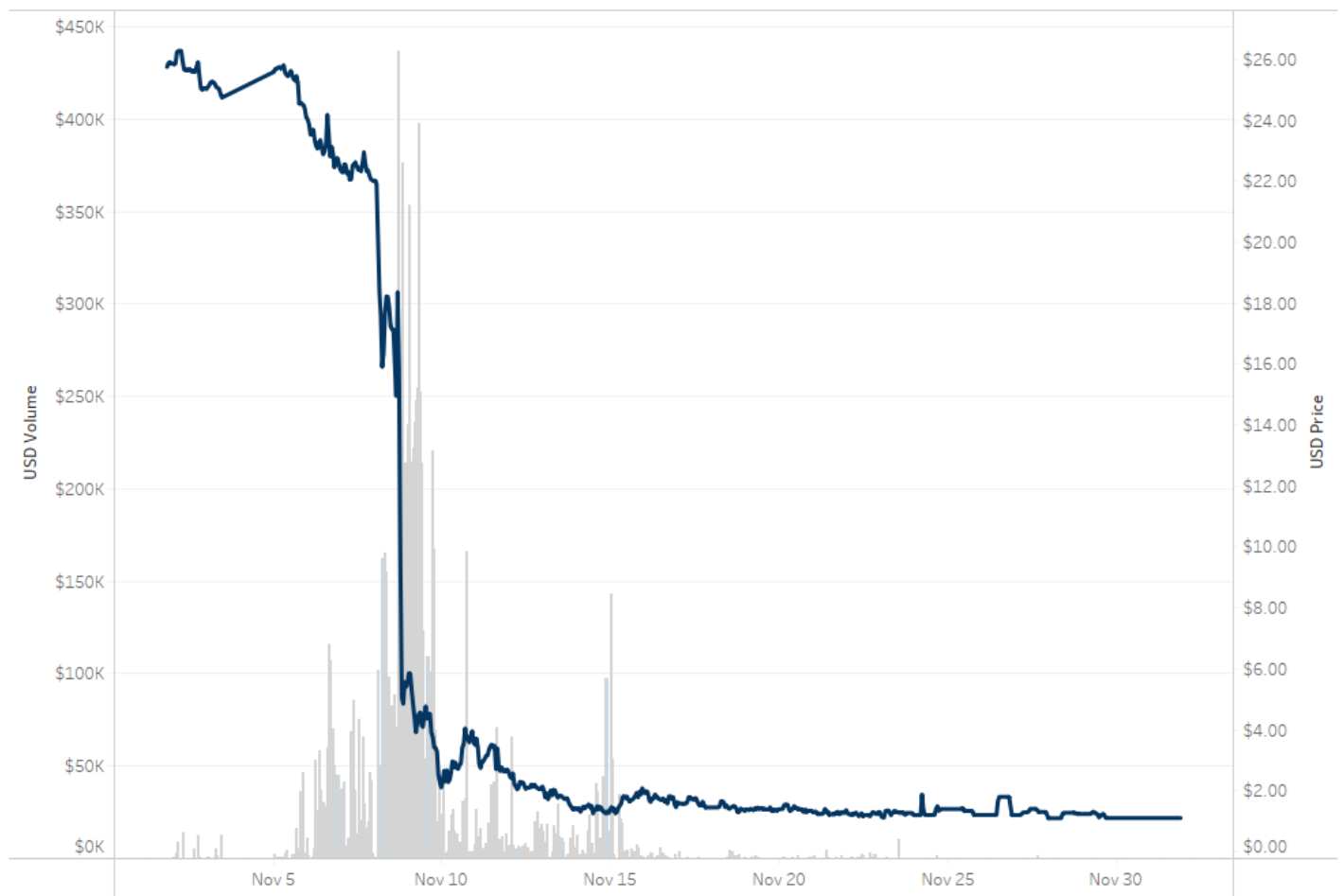
Here is the timeline of FTX's trouble:

- November 2 - CoinDesk [broke a story](#) on Alameda Research's (FTX sister company) balance sheet.
 - Out of \$14.6 billion, \$5.82 billion was reportedly denominated in FTX's own token, called FTT.

- This new information spooked market participants, including Binance, the largest crypto exchange in the world.
- November 6 - Changpeng Zhao, Binance's CEO, [stated](#) that the exchange decided to sell its FTT tokens worth around \$529M due to "recent revelations that came to light".
- November 8 - FTX saw [\\$6 billion](#) in withdrawals in under 72 hours as customers worried about the exchange's solvency.
- November 8 - Sam Bankman-Fried [announced](#) that Binance has signed a Letter of Intention (LOI) to acquire FTX.
- November 9 - Binance [backed out](#) of the deal, citing much larger than expected issues at FTX and alleged U.S. agency investigations.
- November 10 - FTX [paused](#) withdrawals and suspended the addition of new clients.
- November 11 - FTX [filed](#) for bankruptcy.

FTX Token's (FTT) price dropped by more than 90% in the span of a few days.

FTT Hourly Price and Volume (USD)

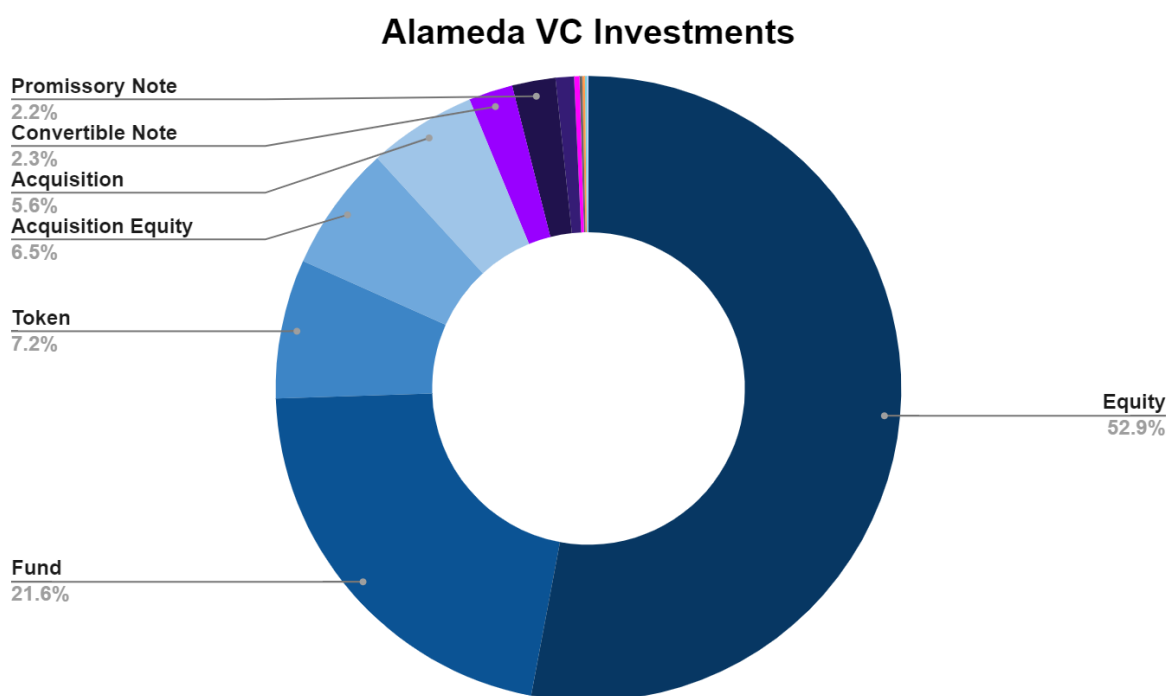


FTX and Alameda Research Contagion

Unsurprisingly, the FTX situation caused contagion to spread across the broader digital asset market. On November 10, crypto lender BlockFi [paused](#) withdrawals and stated it was unable to continue operating its business due to FTX's collapse. Another crypto lender and prime broker, Genesis, also [paused](#) withdrawals on November 16 after losing around \$175M due to FTX's collapse.

In December, the broader digital asset industry was hit with a crisis of confidence, particularly as related to centralized entities, as Grayscale's Bitcoin Trust (GBTC) hit a record [discount](#) of -50% and Binance's [outflows](#) hit \$6 billion in three days.

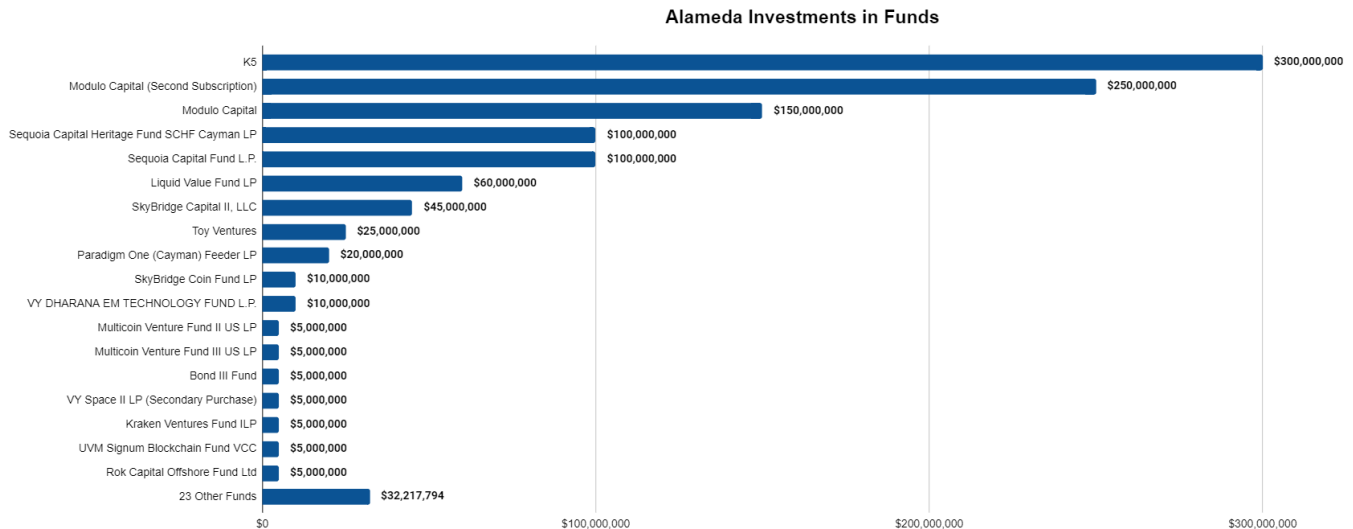
Another second-order effect of FTX and Alameda Research's collapse is the state of their numerous investments. While there is no court decision yet regarding potential clawbacks, FTX's influence spans various crypto protocols and even non-crypto companies. The Financial Times [broke the story](#) of Alameda's venture capital portfolio, which amounted to more than \$5 billion.



Source: DAR, Financial Times

Alameda reportedly invested more than \$5.2 billion across 400+ deals. The types of deals range between investments in equities, notes, tokens, or even as a Limited Partner in funds, including:

- \$2.79 billion in equity investments
- \$1.13 billion in fund investments
- \$380M in token investments



Source: DAR, Financial Times

The largest investments are in:

1. Genesis Digital Assets (\$1.15 billion), a crypto mining company.
2. Anthropic (\$500M), an AI safety and research company.
3. Digital Assets DA AG (\$320M), a tokenization infrastructure company.
4. K5 (\$300M), a venture capital firm.
5. IEX (\$270M), an equity exchange and trading technology firm.

As FTX bankruptcy proceedings continue, more information will come to light regarding the nature of these deals. Creditors might be seeking clawbacks, which will add to the ongoing contagion.

Regulatory Enforcement

Another theme of Q4 2022 was regulatory enforcement. Regulators in the U.S., including the SEC, CFTC, and the DOJ, ramped up their crypto enforcement actions on various types of cases including market manipulation, bankruptcy, fraud, money laundering, and alleged unregistered securities offerings. This creates the need for an enhanced risk management framework and proper planning before launching new digital assets.

Some regulatory actions included:

- The DOJ [arrested](#) and charged Mango Market's exploiter, Avraham Eisenberg, with market manipulation and commodities fraud.
- The SEC [won](#) its case against LBRY, with a federal judge ruling that LBRY's sale of its native LBC token was an unregistered securities offering.
- The SEC [charged](#) FTX founder, Sam Bankman-Fried, with defrauding FTX investors.
- The US Justice Department is reportedly [considering](#) charging Binance and its executives with possible money laundering violations.
- The SEC is [probing](#) crypto lender Genesis for potential securities and accounting violations.

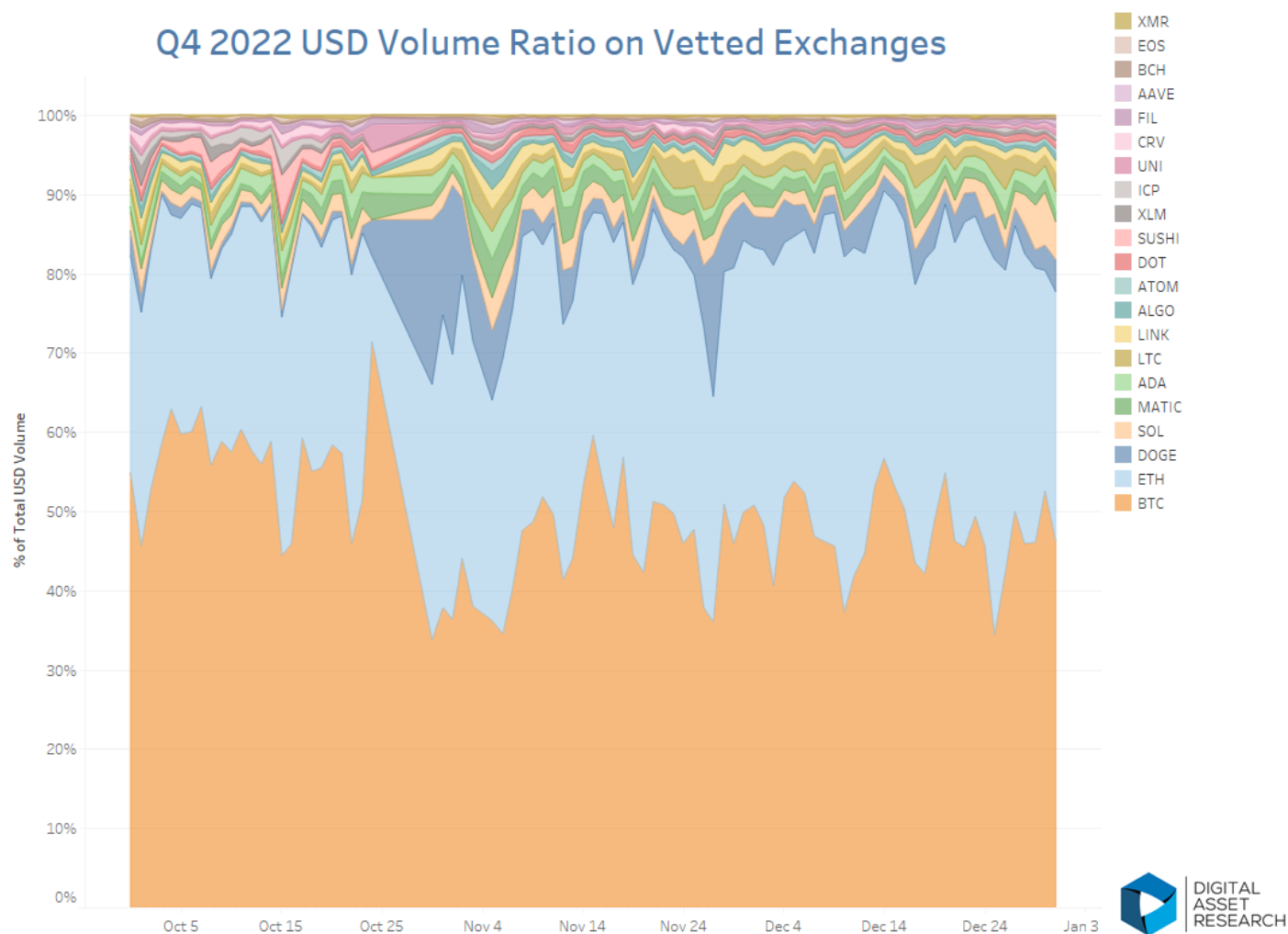
The outcomes of these cases will set numerous legal precedents, which will have a non-trivial impact on shaping the future of the digital asset market.

To learn more about DAR's market data offerings, including prices for 10,000+ digital assets and verifiable volumes from hundreds of exchanges, click [here](#).

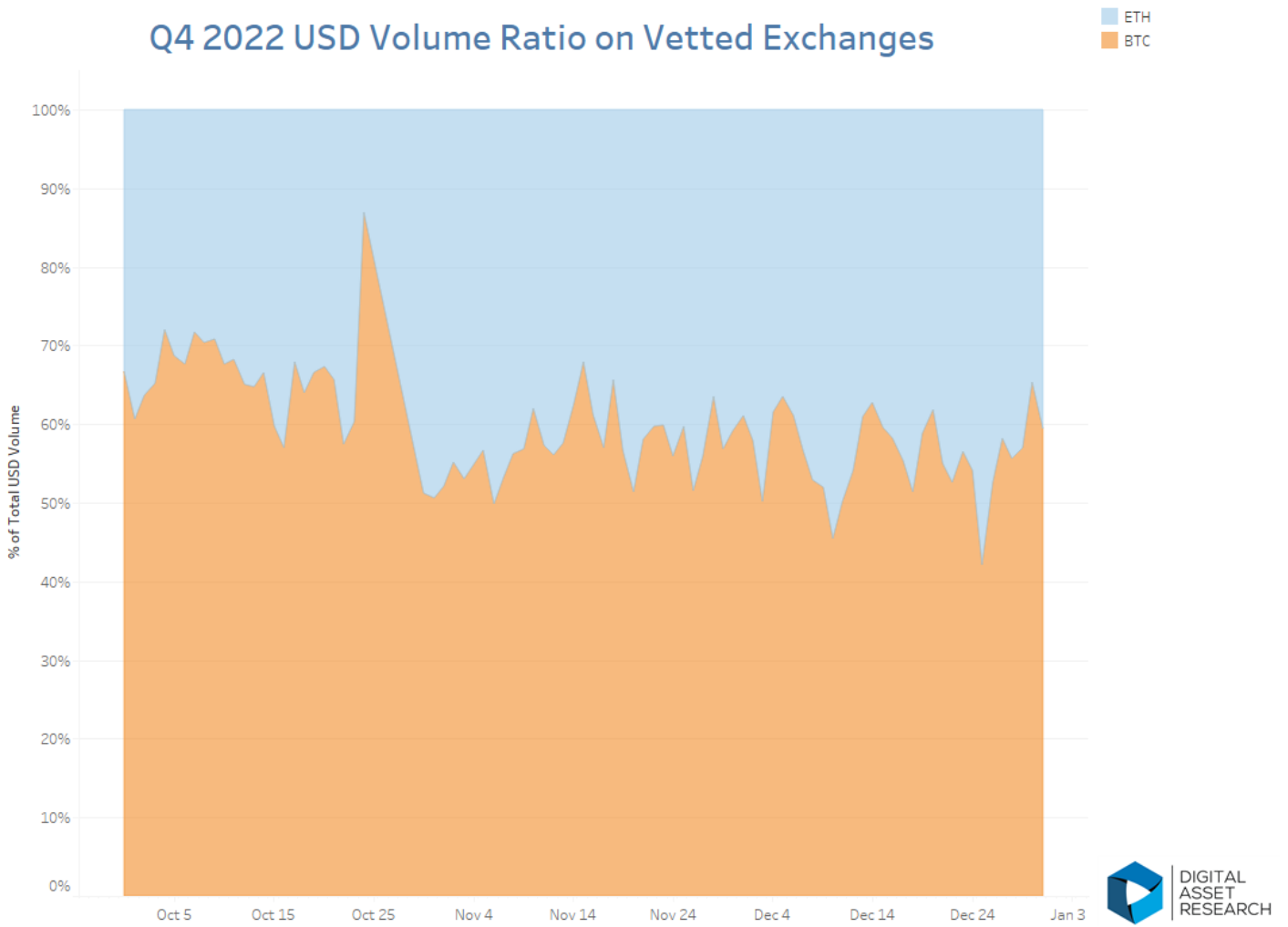
DAR Q4 2022 BY THE NUMBERS

Trading Volume

Bitcoin and Ethereum's combined share of relative USD trading volume on Vetted Exchanges stayed relatively consistent in Q4 2022 with the exception of late October when Dogecoin surged significantly in trading volume.



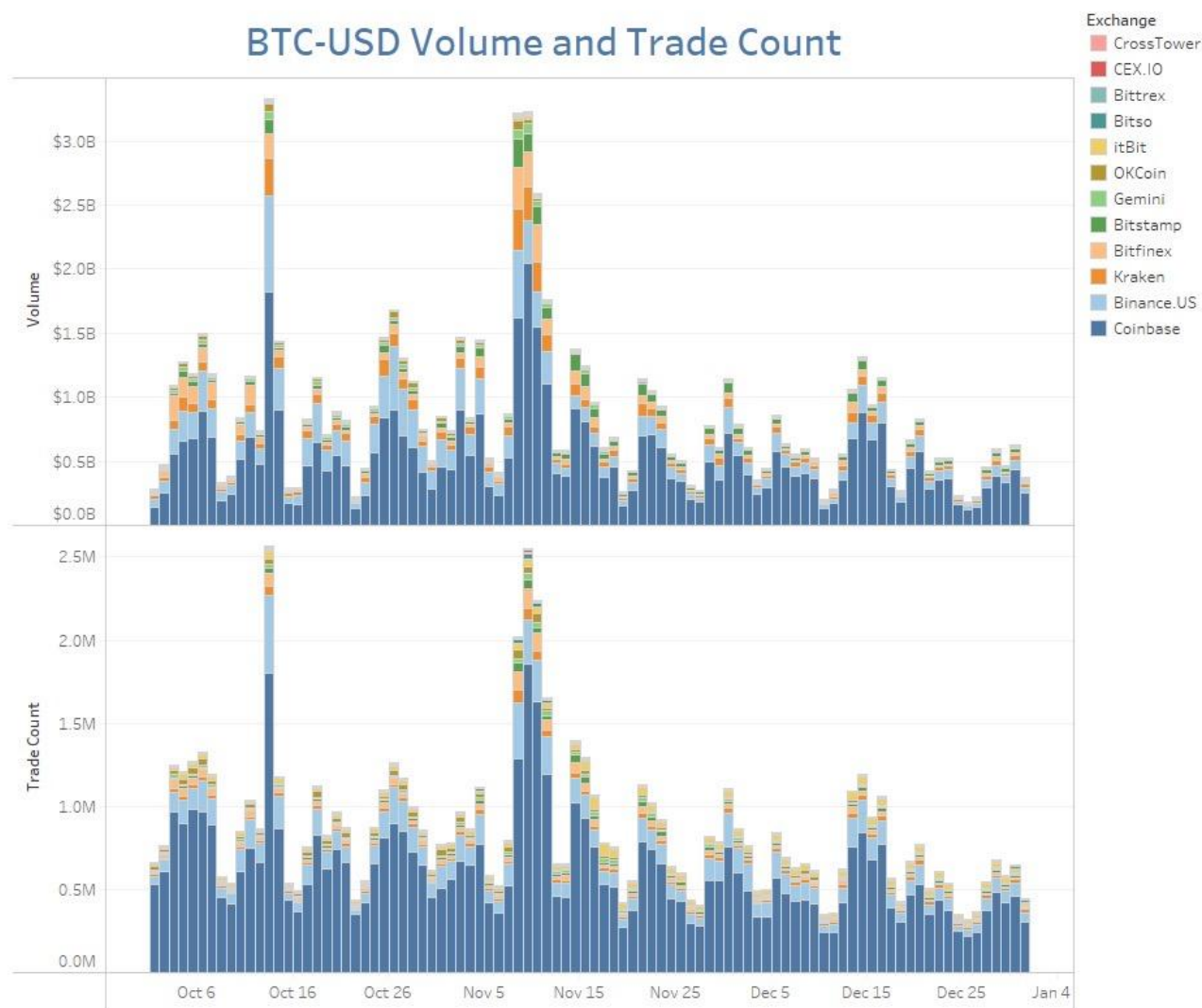
Ethereum's share of trading volume against Bitcoin saw a significant increase in early Q4 2022, reaching a high of 55% in late December.



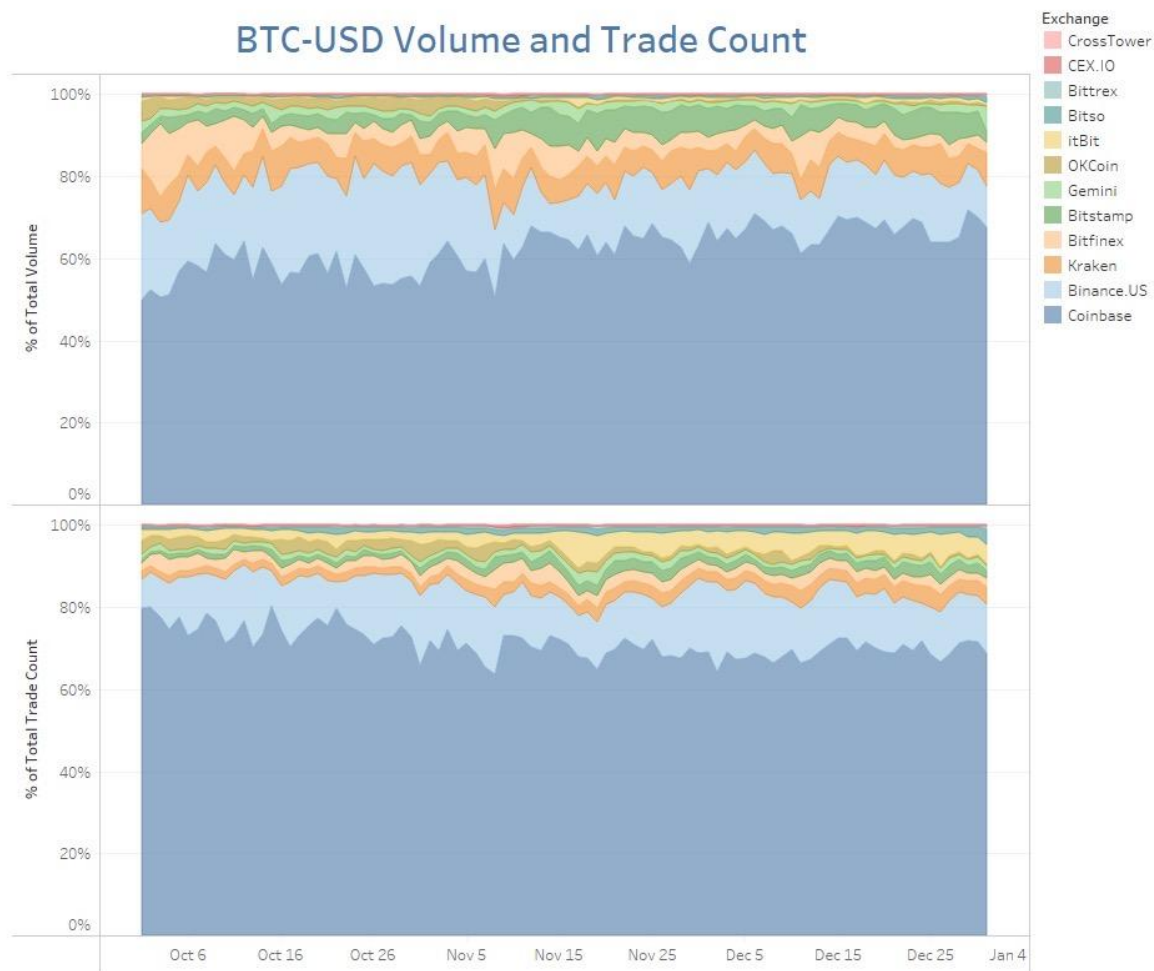
Source: DAR's Market Data & Taxonomy Data

Exchange Dynamics

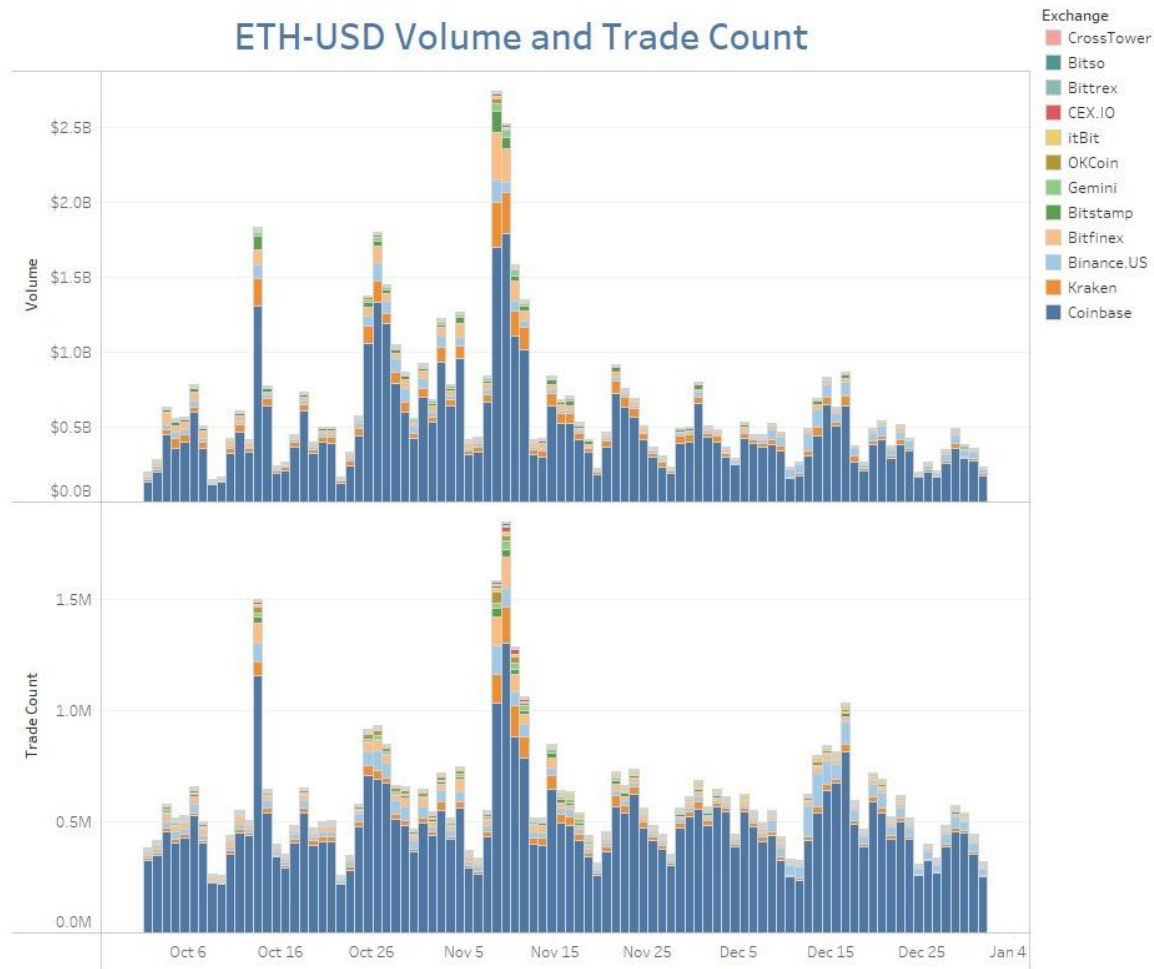
Bitcoin trading activities across select DAR Vetted Exchanges spiked in early November 2022, coinciding with the collapse of FTX. Overall, volume stayed relatively stable in Q4 2022, with a slight decrease towards the end of the year.



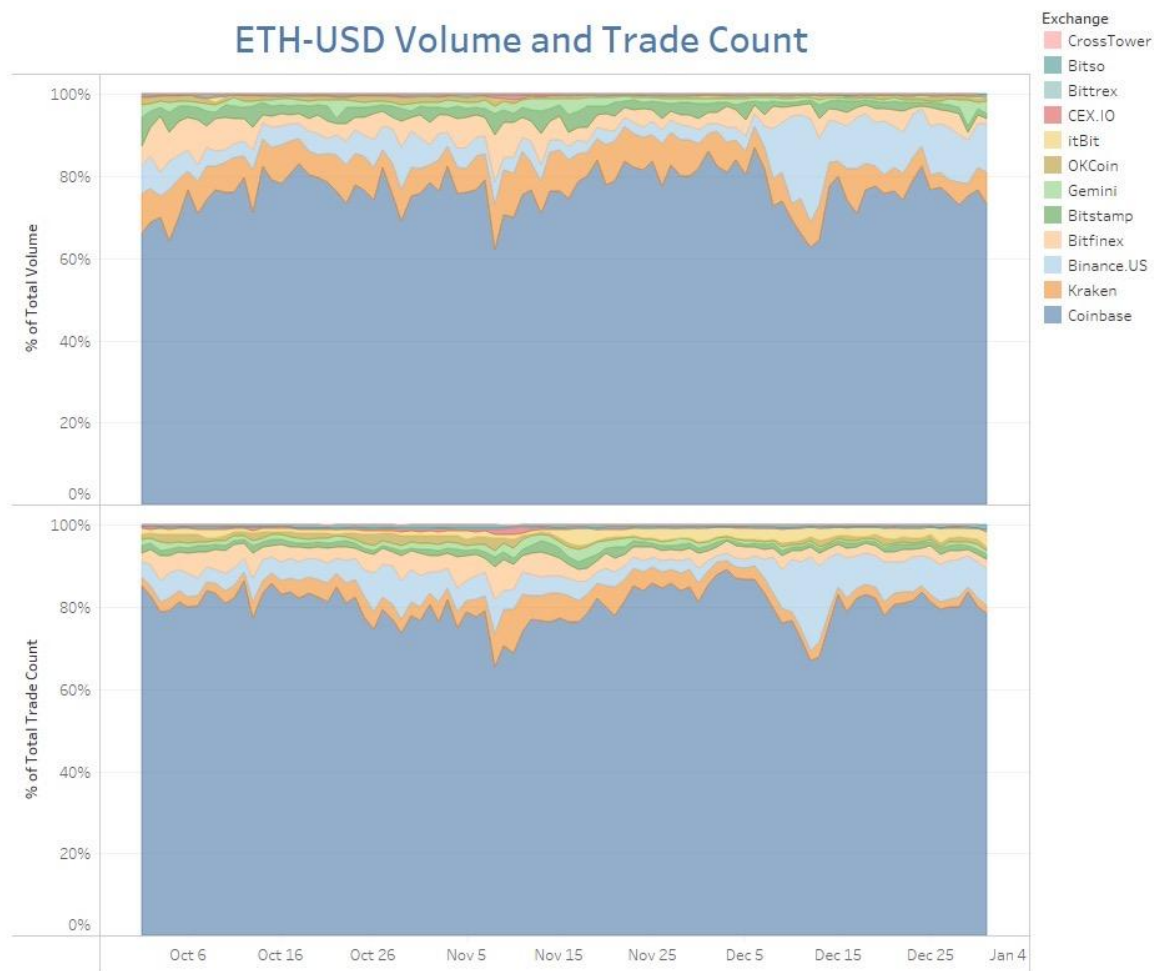
Coinbase saw its percentage of total Bitcoin trading volume increase from approximately 50% to above 60% in Q4 2022 amongst select DAR Vetted Exchanges. Additionally, itBit saw a substantial increase in Bitcoin trading volume whereas OKCoin saw a significant decrease.



Ethereum trading activities across select DAR Vetted Exchanges spiked in early November 2022, coinciding with the collapse of FTX. Overall, volume stayed relatively stable in Q4 2022.

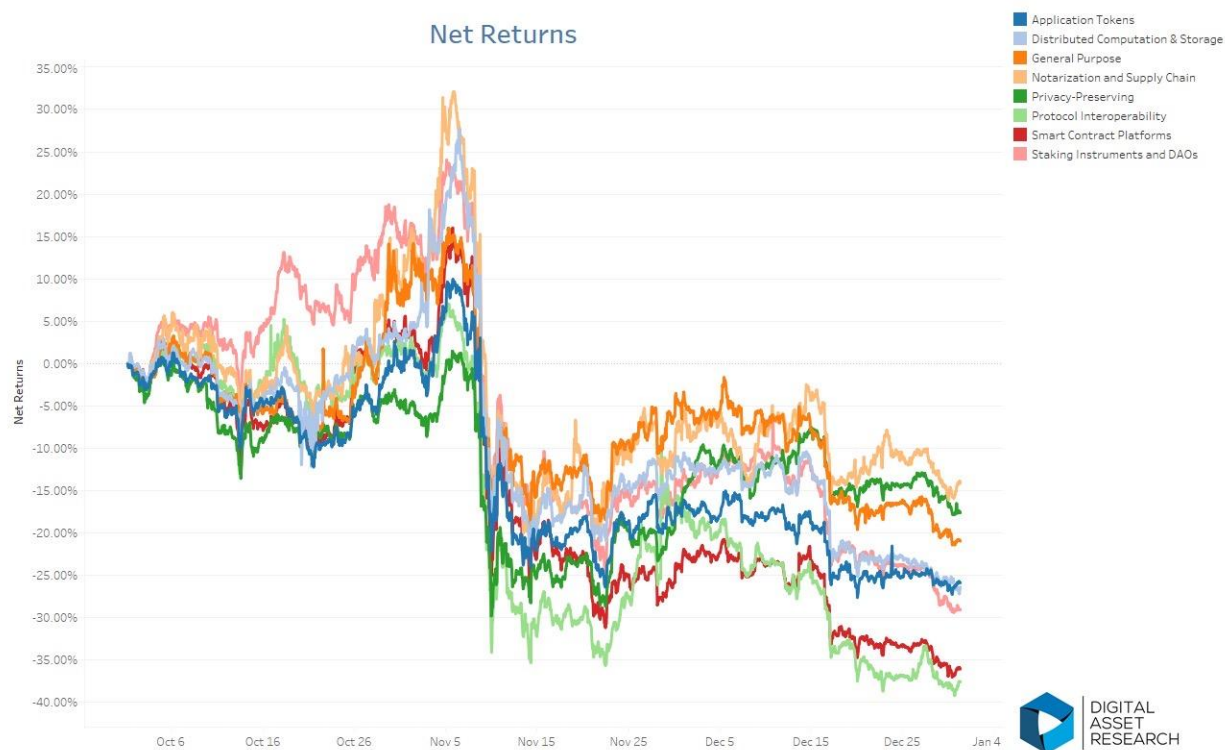


Binance.US saw its percentage of total Ethereum trading volume increase in December 2022, hitting a high of approximately 20% amongst selected DAR Vetted Exchanges. Additionally, itBit saw a substantial increase in its Ethereum trading volume, whereas OKCoin saw a significant decrease.



The Digital Asset Taxonomy System (DATS), developed in partnership with the Wilshire Digital Assets Advisory Group, was designed from the bottom up to capture the nuances of the digital landscape.

In Q4 2022, digital assets classified under DATS' *Notarization and Supply Chain* sector generated the best performance whereas the *Protocol Interoperability* sector was the most significant laggard. All eight sectors generated negative returns in Q4 2022.



To learn more about the different classifications of more than 1,400 digital assets, click [here](#).

REGULATORY HIGHLIGHTS

There were multiple notable regulatory developments in Q4 2022 that might affect the broader digital asset space moving forward. The most notable ones include an argument that FTT is a security, the Mango Market exploiter indictment, and the SEC case against LBRY.

To stay on top of digital asset regulatory developments, subscribe to DAR's monthly regulatory recap newsletter [here](#).

SEC Calls FTX Token (FTT) a Security

Overview: As part of [a complaint](#) filed on December 21, the SEC stated that the FTX token (FTT) was sold as an investment contract, thus classifying it as a security. The complaint highlights that proceeds from FTT sales would be utilized to fund development, marketing, and business operations of FTX. The complaint also notes FTX also used language that emphasized the profit potential of FTT.

FTT's buy-and-burn mechanism was also mentioned in the complaint. This process whereby FTX would utilize its revenue to repurchase and burn FTT is akin to a stock buyback and contributed to the argument that FTT is a security.

The outcome of this complaint could have a significant impact on other digital assets that implement similar buy-and-burn mechanisms, as well as digital asset projects that have previously stated that their token sale was made to help fund the development of their protocol.

The Takeaway: Tokenomic designs that are closer to how equities work, such as buy-and-burn, governance vote, and revenue share, will be under increasing scrutiny as the SEC makes a case that such tokens should be considered securities.

CFTC and DOJ vs Mango Markets

Overview: Mango Markets, a DeFi protocol built on Solana that facilitates perpetual swaps trading and crypto lending, was [exploited](#) for more than \$110M in October 2022. Avraham Eisenberg, the person who led the operation behind the exploit, took to Twitter to [explain](#) and justify his actions, stating that he merely utilized the Mango protocol as intended, exploiting a weakness in its design.

Eisenberg was [arrested](#) in Puerto Rico in December 2022. The U.S. Department of Justice [announced](#) Eisenberg's arrest and charged him with offenses related to market-manipulation. A second [filing](#) signed by Assistant U.S. Attorneys Thomas S. Burnett and Noah Solowiejczyk charged Eisenberg with commodities fraud and manipulation.

Eisenberg allegedly executed the exploit by selling MNGO token perpetual contracts from one account under his control to another account that was also under his control. This action raised the price of the MNGO tokens significantly, achieving a large unrealized profit. The unrealized profits were then used as collateral to borrow funds, which drained funds from Mango Markets.

The Takeaway: In his explanation, Eisenberg argued that “code is law” and that the exploit was legal open market action. Regulators seem to think otherwise. While there’s no regulatory clarity for on-chain markets because they span countries and jurisdictions, the outcome of this case will set a precedent for the future of on-chain activities.

SEC vs LBRY

Overview: LBRY Inc., a blockchain-based publishing platform, was served by the SEC in March 2021 over its LBRY Credit (LBC) tokens, with the SEC alleging that LBRY Inc. had been selling unregistered securities offerings. On November 7, 2022, the SEC [won](#) the legal battle after a judge decided that LBRY’s tokens were securities.

The judge in the case reasoned that even if the LBRY team was completely silent about promises, contracts, or efforts, the action of pre-mining LBC tokens alone created a sufficient **expectation of profits**, motivating the LBRY team to “work tirelessly to improve the value of its blockchain for itself and any LBC purchasers”.

The Takeaway: The process of launching a new digital asset will become increasingly regulated. At the same time, the lack of regulatory clarity in the U.S. may push founders and innovation abroad to emerging markets with weaker regulatory agencies or to jurisdictions with friendlier crypto rules.

INSTITUTIONAL DIGITAL ASSET PRODUCT RECAP

Every month, DAR publishes a recap report that highlights developments related to institutional-grade digital asset products globally. In Q4 2022, the AUM of institutional digital asset products decreased alongside the broader digital asset market but has remained relatively high across multiple assets.

Highlights:

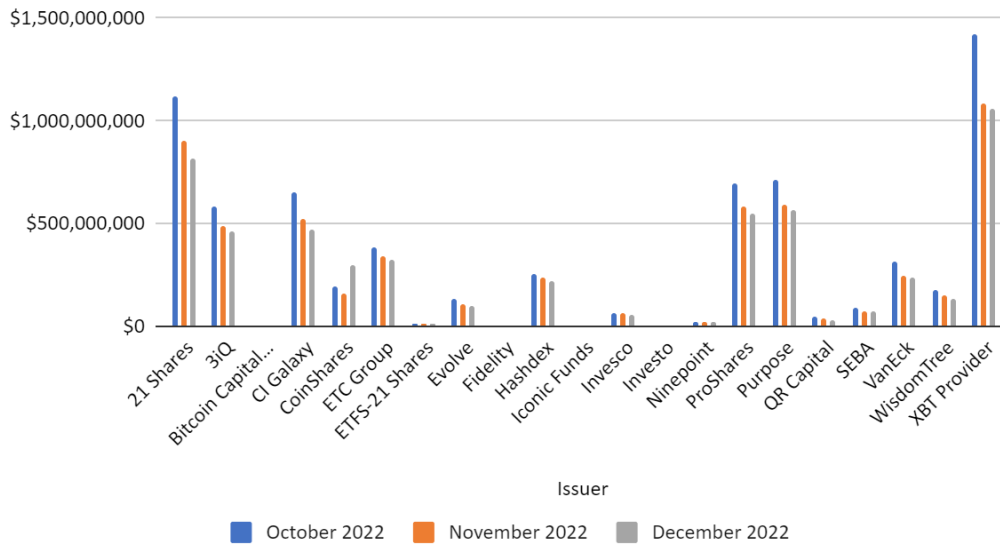
- The AUM of Grayscale's Bitcoin and Ethereum trusts decreased by more than \$3.3 billion in Q4 2022 and the discount for Grayscale Bitcoin Trust (GBTC) hit -51%.
- Excluding Grayscale, the top digital asset product issuers by AUM were XBT Provider and 21 Shares.
- Spot Bitcoin ETF applications continue to be rejected in the US. Grayscale [stated](#) that it will explore returning a portion of investor capital if the SEC refuses to approve its spot Bitcoin ETF.

	October Discount	October AUM	November Discount	November AUM	December Discount	December AUM
Grayscale Bitcoin Trust	-43.12%	\$12,800,000,000	-51.76%	\$10,700,000,000	-46.05%	\$10,500,000,000
Grayscale Ethereum Trust	-37.45%	\$4,700,000,000	-48.57%	\$3,800,000,000	-59.32%	\$3,700,000,000

Source: DAR, Grayscale

The top digital asset product issuers by total AUM, excluding Grayscale, continue to be XBT Provider and 21Shares. Total AUM across providers decreased substantially in Q4 2022, which primarily happened in November after the FTX collapse.

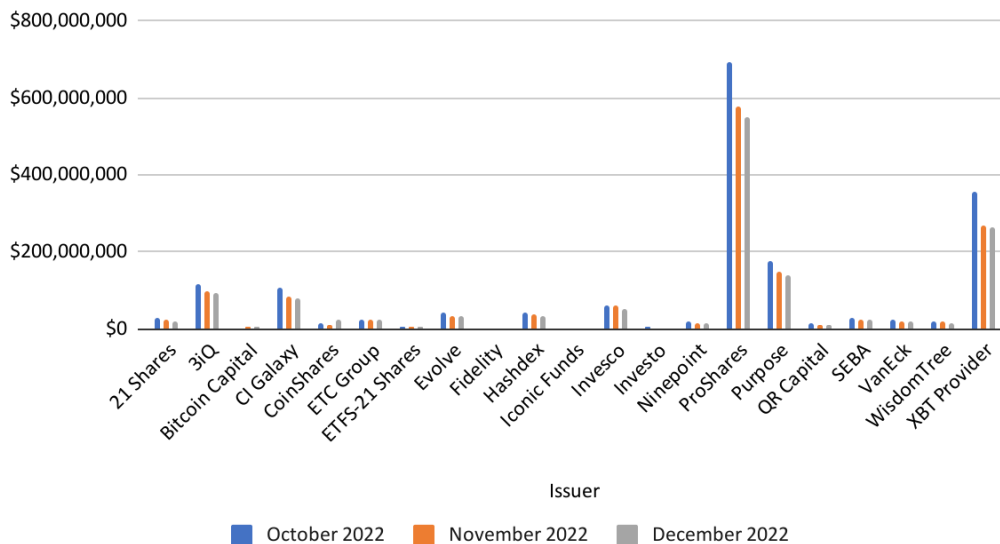
Total Asset Under Management (AUM) per Issuer - Q4 2022



Source: Digital Asset Research

ProShares and XBT Provider continue to have the largest average AUM across all of their products. Average AUM across top providers decreased in Q4 2022 as the broader digital asset market continued to experience a downturn.

Average Product Assets Under Management (AUM) per Issuer



Source: Digital Asset Research

Excluding products with less than \$500,000 in AUM, Cosmos (ATOM), and Litecoin (LTC) saw considerable increases in their AUM in institutional products, whereas FTX Token (FTT) and Solana (SOL) saw the most significant decrease in AUM.

Asset Ticker	October	November	December	Q4 2022 Change
AAVE	\$1,301,000	\$901,000	\$757,000	-41.81%
ADA	\$30,682,000	\$24,483,000	\$19,669,000	-35.89%
ALGO	\$23,077,000	\$17,668,000	\$13,273,000	-42.48%
ATOM	\$1,218,000	\$1,622,000	\$1,698,000	39.41%
AVAX	\$11,146,000	\$8,187,000	\$6,099,000	-45.28%
BCH	\$3,892,000	\$3,939,000	\$3,649,000	-6.24%
BNB	\$370,409,000	\$306,702,000	\$257,233,000	-30.55%
BTC	\$3,760,628,150	\$3,122,831,000	\$3,103,774,505	-17.47%
DOT	\$21,601,000	\$18,533,000	\$14,496,000	-32.89%
ETH	\$1,961,934,784	\$1,545,458,000	\$1,484,717,000	-24.32%
FTT	\$1,575,000	\$118,166	\$0	-100.00%
LINK	\$2,466,000	\$2,588,000	\$1,978,000	-19.79%
LTC	\$6,620,000	\$7,432,000	\$7,618,000	15.08%
MATIC	\$29,425,000	\$28,086,000	\$23,078,000	-21.57%
Multi	\$440,849,566	\$377,462,000	\$351,620,163	-20.24%
SOL	\$85,443,000	\$32,651,000	\$29,323,000	-65.68%
TRON	\$62,200,000	\$52,500,000	\$54,300,000	-12.70%
UNI	\$1,216,000	\$1,045,000	\$992,000	-18.42%
XLM	\$3,666,000	\$2,930,000	\$2,411,000	-34.23%
XRP	\$44,604,000	\$36,174,000	\$35,637,000	-20.10%
XTZ	\$14,208,000	\$9,693,000	\$7,208,000	-49.27%

Source: Digital Asset Research

Spot-Based Bitcoin ETF Applications

Issuer	Company	Filing	Filing Date	Deadline	Status
VanEck Bitcoin Trust	VanEck	https://www.sec.gov/Archives/edgar/data/1838028/000093041320002664/c100811_s1.htm	30-Dec-2020	14-Nov-2021	Rejected
Valkyrie Bitcoin Fund	Valkyrie Investments	https://www.sec.gov/Archives/edgar/data/1841175/000138713121001118/valkyrie-s1_012221.htm	22-Jan-2021	1-Jan-2022	Rejected
NYDIG Bitcoin ETF	Stone Ridge/NYDIG	https://www.sec.gov/Archives/edgar/data/1843021/000119312521043521/d242572ds1.htm	16-Feb-2021	11-Mar-2022	Rejected
WisdomTree Bitcoin Trust	WisdomTree	https://www.sec.gov/Archives/edgar/data/1850391/000119312521077493/d122075ds1.htm	11-Mar-2021	5-Dec-2021	Rejected
First Trust SkyBridge Bitcoin ETF Trust	First Trust & SkyBridge	https://www.sec.gov/Archives/edgar/data/1852143/000144554621001542/skybridge_s1.htm	19-Mar-2021	16-Jan-2022	Rejected
Wise Origin Bitcoin Trust	Fidelity	https://www.sec.gov/Archives/edgar/data/1852317/000119312521092598/d133565ds1.htm	24-Mar-2021	20-Jan-2022	Rejected
Kryptoin Bitcoin ETF Trust	Kryptoin Investment Advisors	https://www.sec.gov/Archives/edgar/data/1790727/000119312521111553/d112503ds1a.htm	9-Apr-2021	18-Dec-2021	Rejected
Galaxy Bitcoin ETF	Galaxy Digital	https://www.sec.gov/Archives/edgar/data/1855781/000095010321005427/dp149207_s1.htm	12-Apr-2021	NA	No Rulemaking Action
One River Carbon Neutral Bitcoin Trust	One River	https://www.sec.gov/Archives/edgar/data/1863687/000110465921070846/tm2116981d1_s1.htm	24-May-2021	27-May-2022	Rejected
ARK 21Shares Bitcoin ETF	ARK Invest, 21Shares	https://www.sec.gov/Archives/edgar/data/0001869699/000119312521201955/d165184ds1.htm	28-Jun-2021	30-Mar-2022	Rejected
ARK 21Shares Bitcoin ETF - REFILE	ARK Invest, 21Shares	https://www.sec.gov/rules/sro/cboebzx/2022/34-94982.pdf	13-May-2022	27-Jan-2023	Decision Postponed
Global X Bitcoin Trust	Global X	https://www.sec.gov/Archives/edgar/data/1874070/000093041321001317/c102050_s1.htm	21-Jul-2021	14-Apr-2022	Rejected
Invesco Galaxy Bitcoin ETF	Invesco	https://www.sec.gov/Archives/edgar/data/0001855781/000119312521278390/d233987ds1a.htm	21-Sep-2021	NA	No Rulemaking Action
Grayscale Bitcoin Trust	Grayscale	https://www.globenewswire.com/news-release/2021/10/19/2316640/0/en/NYSE-Arca-Files-Form-19b-4-to-Convert-Grayscale-Bitcoin-Trust-into-an-ETF.html	19-Oct-2021	6-Jul-2022	Rejected
Bitwise Bitcoin ETP Trust	Bitwise	https://www.sec.gov/Archives/edgar/data/1763415/000138713121009995/bbet-s1_101421.htm	14-Oct-2021	1-Jul-2022	Rejected
Blockfi NB Bitcoin ETF	BlockFi	https://www.sec.gov/Archives/edgar/data/0001853419/000092963821001329/s1.htm	9-Nov-2021	NA	No Rulemaking Action
VanEck Bitcoin ETF	VanEck	https://cdn.cboe.com/resources/regulation/rule_filings/pending/2022/SR-CboeBZX-2022-035.pdf	24-Jun-2022	3-Mar-2023	Rejected

Source: Digital Asset Research

Futures-Based Bitcoin ETF Applications

Issuer	Company	Filing	Filing Date	1st Response Date	Status
ProShares Bitcoin Strategy ETF	ProShares	https://www.sec.gov/Archives/edgar/data/1174610/000168386321004445/f9424d1.htm	4-Aug-2021	18-Oct-2021	Live
Invesco Bitcoin Strategy ETF	Invesco	https://www.sec.gov/Archives/edgar/data/1418144/000119312521236682/d209327d485apos.htm	5-Aug-2021	19-Oct-2021	Withdrawn
VanEck Bitcoin Strategy ETF	VanEck	https://www.sec.gov/Archives/edgar/data/1137360/000113736021000495/combinedbitcoinstategy.htm	10-Aug-2021	24-Oct-2021	Live
Valkyrie Bitcoin Strategy ETF	Valkyrie	https://www.sec.gov/Archives/edgar/data/0001877493/000138713121008347/valk-nla_081121.htm	11-Aug-2021	25-Oct-2021	Live
Galaxy Bitcoin Strategy ETF	Galaxy	https://www.sec.gov/Archives/edgar/data/1877784/000095010321012406/dp156188_nla.htm	17-Aug-2021	31-Oct-2021	Assumed to be preapproved for launch
AdvisorShares Managed Bitcoin ETF	AdvisorShares	https://www.sec.gov/Archives/edgar/data/1408970/000182912621008454/advisorsharestrust_485apos.htm	20-Aug-2021	3-Nov-2021	Assumed to be preapproved for launch
Bitwise Bitcoin Strategy ETF	Bitwise	https://www.sec.gov/Archives/edgar/data/0001540305/000089418921006626/bitwise485a.htm	14-Sep-2021	NA	Assumed to be preapproved for launch
Teucrium Bitcoin Futures Fund	Teucrium	https://www.sec.gov/Archives/edgar/data/0001471824/000165495421006095/TeucriumBCFU_S1.htm	20-May-2021	NA	Approved
Ark 21Shares Bitcoin Futures Strategy	ARK Invest, 21Shares	https://www.sec.gov/Archives/edgar/data/1592900/000182912621011950/alphaarchitect_485apos.htm	13-Oct-2021	NA	Assumed to be preapproved for launch
Valkyrie XBTO Bitcoin Futures Fund	Valkyrie	https://www.sec.gov/rules/sro/nasdaq/2021/34-92865.pdf	2-Sep-2021	NA	Approved
BlockFi Bitcoin Strategy ETF	BlockFi	https://www.sec.gov/Archives/edgar/data/0001540305/000089418921007234/blockficombinet.htm	8-Oct-2021	NA	Assumed to be preapproved for launch
AXS Bitcoin Strategy ETF	AXS Investments	https://www.sec.gov/Archives/edgar/data/0001587982/000139834421020500/fp0069793_485apos.htm	27-Oct-2021	NA	Assumed to be preapproved for launch
Global X Blockchain & Bitcoin Strategy ETF	Global X	https://www.sec.gov/Archives/edgar/data/1432353/000143235321000560/a497k-blockchainbitcoinstr.htm	19-Aug-2021	NA	Live
VanEck Gold & Bitcoin Strategy ETF	VanEck	https://www.sec.gov/Archives/edgar/data/1137360/000113736021001182/vvtgoldandbitcoinstategy.htm	17-Dec-2021	NA	Assumed to be preapproved for launch
VanEck Commodities & Bitcoin Strategy ETF	VanEck	https://www.sec.gov/Archives/edgar/data/1137360/000113736022000019/commoditiesandbitcoin48510.htm	18-Jan-2022	NA	Assumed to be preapproved for launch

Source: Digital Asset Research

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