

Genesis Q4 2021

Q4 Market Observations

Q4 Market Activity Snapshot

(with Q4/Q3 growth)

\$50B (+40%)

2021 Q4 Loan Originations

\$12.5B (+12%)

Total Active Loans as of Dec 31, 2021

\$30.8B (+23%)

Q4 Spot Volume Traded

\$20.7B (+62%)

Q4 Derivatives Notional Value Traded

2021 Market Activity Snapshot

(with 2021/2020 growth)

\$130.6B (+587%)

2021 Loan Originations

\$12.5B (+227%)

Total Active Loans as of Dec 31, 2021

\$116.5B (+463%)

2021 Spot Volume Traded

\$53.8B (+812%)

2021 Derivatives Notional Value Traded

Introduction

Q4 '21 marked our largest quarter to date, cementing a year of strong growth across all Genesis business lines while highlighting several key trends we observed in the market:

- The continued diversification of digital asset investments
- The deepening sophistication of institutional investors entering the crypto market
- New types of institutions participating in the market
- Increasing allocations from managers of diversified portfolios
- The growing need for multi-service institutional prime brokerages

Over the following pages, we provide a breakdown of our lending, derivatives, spot and custody activities across Q4 and 2021, paired with in-depth insights from our lending and derivatives desks. Our intent is to shed light on the overall growth of digital asset markets alongside the expansion of Genesis' activity in the space.

Selected highlights:

- In Q4, Genesis loan originations reached **\$50 billion**, up over **565%** year-on-year and **40%** vs. Q3 2021. Loan originations for 2021 were approximately **6.9x higher than** 2020.
- Active loans outstanding on December 31 were **\$12.5 billion**, over **12%** higher than the end of Q3 and almost **3.3x** the amount outstanding at the end of 2020.
- The spot desk saw a **23%** increase in trading volume compared to Q3, and an increase of **279%** compared to Q4 2020. Across 2021 as a whole, Genesis spot volumes grew **5.6x** over 2020.

More Information

To learn more about Genesis, or to work together with the Genesis team, contact us at:

info@genesistrading.com

www.genesistrading.com

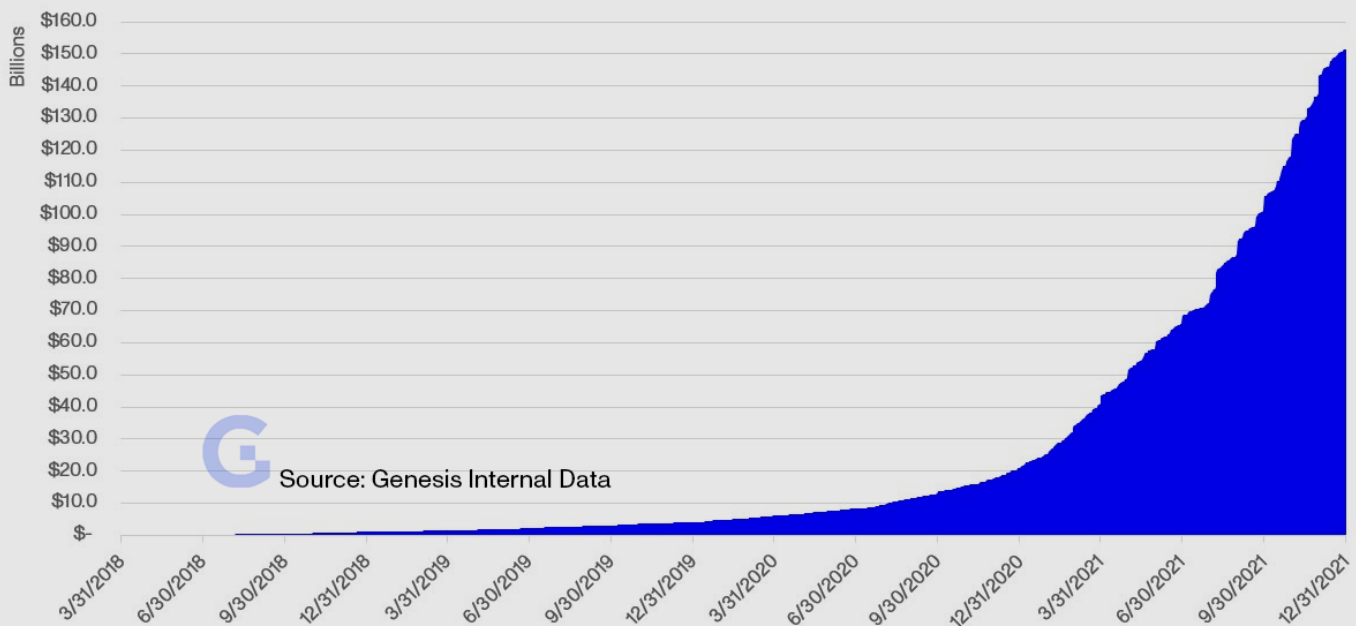
-
- The derivatives desk traded over **\$20.7 billion** in notional value, an increase of **62%** vs. Q3 and over **360%** higher than Q4 2020. Total notional value traded by the desk in 2021 grew **9.1x** over 2020, to **\$53.8 billion**.
 - The number of clients onboarded by Genesis Custody grew **53%** over the quarter.
 - Genesis' headcount grew **22%** over the quarter to reach **170 employees** spread across three continents.

1 Genesis Q4 & 2021 Results

Lending

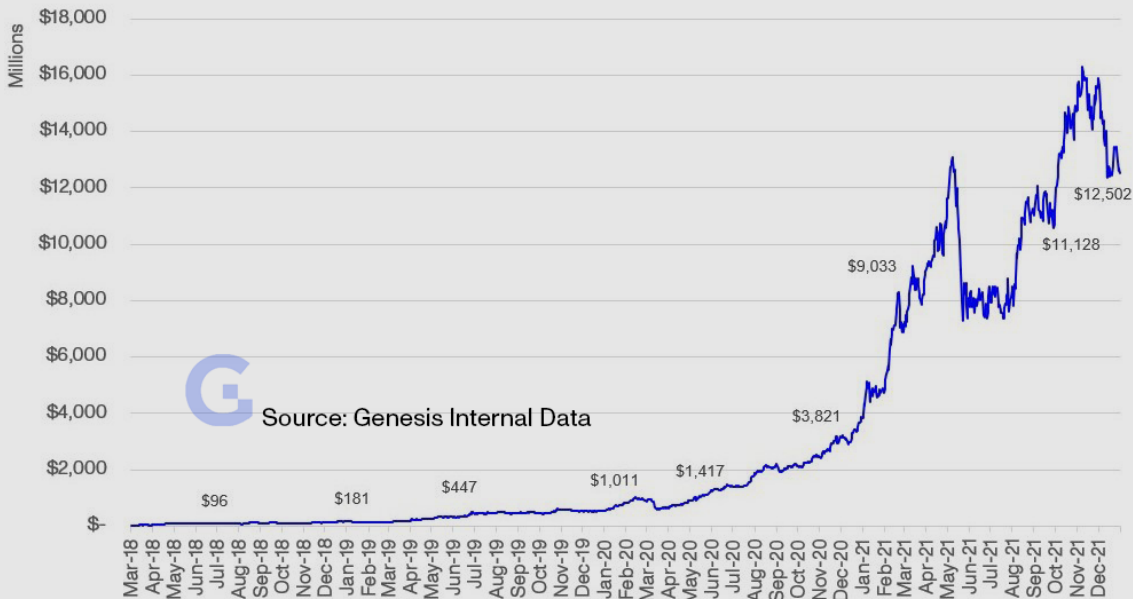
Genesis' lending desk finished the year with over \$150B in cumulative originations since its launch in March of 2018. Over \$50 billion in new originations were executed in Q4, up over 40% from the \$35.7 billion originated over the previous quarter. This marked the desk's fifteenth consecutive quarter of growth.

Lending: Cumulative Originations (\$bn)



Active loans outstanding climbed to \$12.5 billion to close the quarter, up 12.3% from Q3's \$11.1 billion and 227% from the \$3.8 billion outstanding at the end of Q4 2020. Loans outstanding peaked at over \$16 billion in mid-November before seeing a wave of year-end deleveraging as prices on most cryptocurrencies fell.

Lending: Active Loans Outstanding (\$ million)



Over the quarter, we noted an ongoing change in our lending mix between BTC and USD, with BTC losing its outsized dominance in our portfolio. At the end of 2020, BTC represented as much as 53.9% of our lending mix whereas USD and equivalents only represented 23.2%. Primarily due to the GBTC discount, this dynamic has since flipped with BTC accounting for 27.5% of our lending mix and USD-and-equivalent loans increasing to almost 40% by the end of '21. While some of this movement was due to a correction in price in both BTC and ETH, we also noticed organic growth in USD originations relative to previous quarters with clients seeking more flexibility going into year end.

In Q3, we highlighted the strong growth we'd been seeing in both absolute volume and relative weighting for ETH originations. We noted this was partially due to greater demand from clients engaging with DeFi platforms. While DeFi demand hasn't waned, focus has shifted towards layer-1 (L1) alternatives resulting in slightly higher originations in those coins.

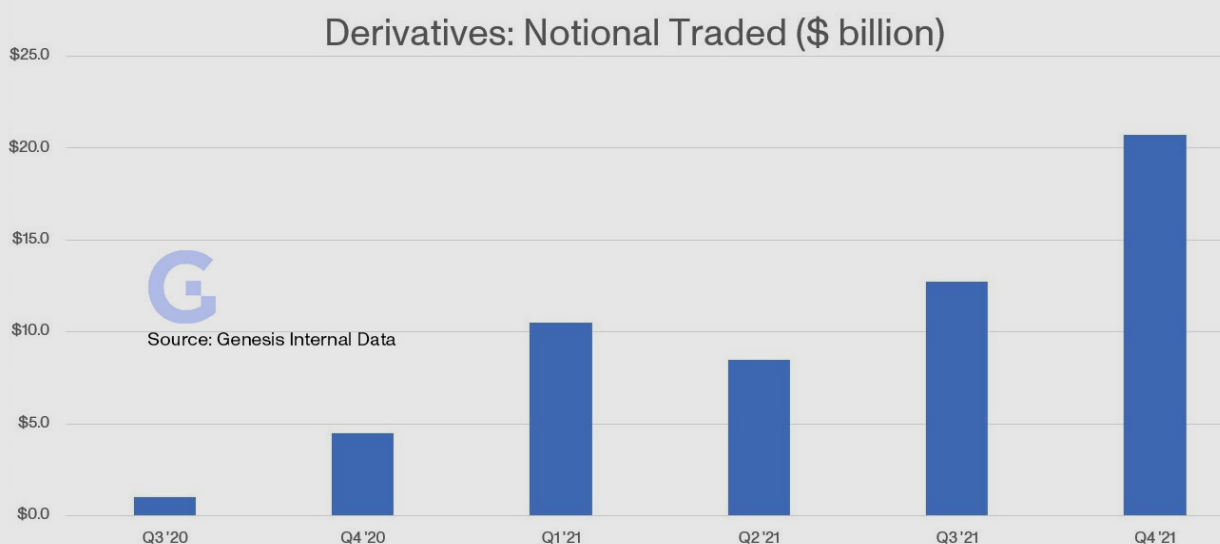
Asset	3/31/2021	6/30/2021	9/30/2021	12/31/2021
BTC	42.8%	42.3%	32.4%	27.5%
ETH	27.0%	27.9%	32.0%	25.7%
USD & Equivalents	21.0%	21.1%	29.5%	39.9%
Other	9.3%	8.7%	6.1%	7.0%

(\$ in mm, except BTC Price)	9/30/2021	12/31/2021	QoQ Growth
Cumulative Originations	\$101,161	\$151,588	49.8%
Active Loans	\$11,128	\$12,502	12.3%
BTC Price	\$43,791	\$46,306	5.7%

Derivatives

Genesis saw another record quarter in derivatives trading activity with over \$20.7 billion in notional value traded globally. This figure includes bilateral OTC, negotiated block trades and exchange traded volumes, representing 62% quarter-on-quarter growth and a 360% increase over our results in Q4 2020.

Over the course of 2021 Genesis derivatives traded \$53.8 billion in notional options volume, a 812% increase over 2020.



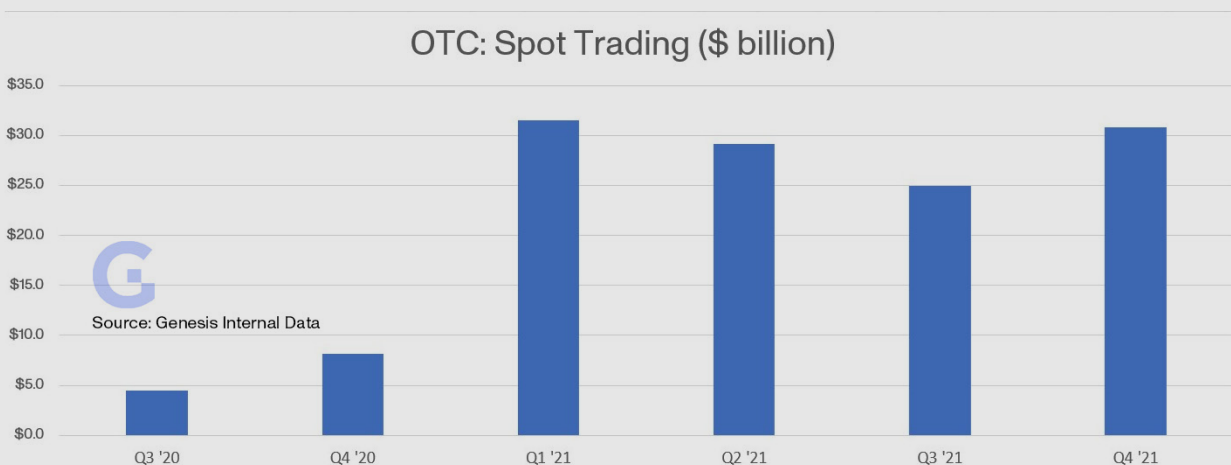
Other notable milestones:

- Since the launch of our derivatives desk, we've traded with 260 unique counterparties.
- We've traded \$325 million notional in altcoin options and have proven to be one of the premier desks for altcoin liquidity.
- In early December, we printed the first ever ETH Micro futures trade on the CME. We expect to continue growing our footprint across CME crypto products in 2022.
- In December, Genesis was #1 in market share for blocked BTC and ETH exchange-cleared options via Paradigm with over \$1.5 billion traded.
- Over several days across the quarter, Genesis' combined OTC and exchange volumes eclipsed 50% of global daily Deribit volumes.

OTC Spot

The Genesis spot desk traded over \$30.8 billion in volume in Q4, an increase of over 23% vs Q3. These volumes were 279% higher than Q4 of 2020.

Total spot trading volume for the year reached \$116.5 billion, a 463% increase over 2020.



Desk volume was moderately skewed to the buy side, with a 53/47 buy-sell ratio, and was slightly more balanced than Q3 (55/45).

Growing client activity diversification by asset as seen by our lending and derivatives desks was also seen by our spot desk. In Q4, BTC accounted for approximately 48% of spot volume, down from over 60% in Q3). ETH made up 33% of our total.

The number of assets traded by our spot desk more than doubled in Q4 to reach 131. While BTC and ETH continued to be our dominant assets, Genesis was also active in 129 others, including SOL, LUNA, DOT, ATOM, ZEC, MANA and LINK.

Custody

Genesis Custody closed 2021 with a 53% increase in the number of customers onboarded vs Q3.

The business also reached a critical milestones during Q4:

Genesis Custody was approved by the Financial Conduct Authority (FCA) as a cryptoasset business, signifying Genesis Custody has strong controls, governance and a compliance frameworks to counter financial crime that hold up to the same anti-money laundering standards as other financial institutions under the FCA's purview.

Over the course of Q4, Genesis Custody also began staking assets for clients. We've taken steps to continue to expand our portfolio of services offered, and to better integrate custody into our clients' trading and portfolio management workflows.

2 The Crypto Lending Market: A Tale of Two Quarters

— by Eugene Chang, Associate, Institutional Lending

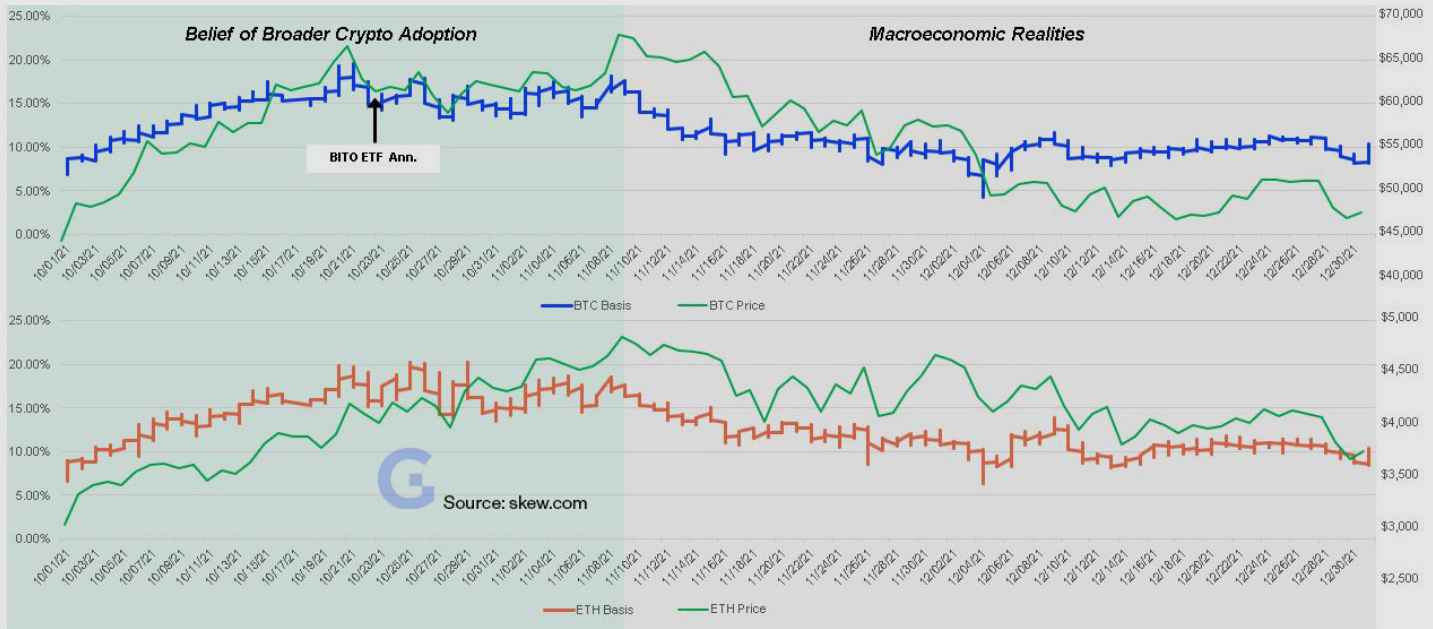


Chart 1: FTX Futures annualized rolling 3-month basis. Markets were separated by two prominent phases during this quarter. Positive headlines included the announcement of BITO. These were eventually overshadowed by a general “bearish” macro environment.

In the first half of Q4, Genesis saw a continuation of the euphoric/bullish environment present at the end of Q3. Leading up to the BITO ETF announcement, our lending desk saw a continued bid on dollar borrow, compounded by the general rebound in traditional equity markets that had been playing out since September.

Notwithstanding our perpetual effort to source more capital, demand for USD leverage outweighed institutional supply, pushing rates on cash as high as mid-teens during the height of the bull market. As belief among traders grew that mainstream crypto adoption would imminently become reality, investors attempted to capture the “basis” trade and BTC yields soared just above 20% in October. This dynamic resulted in new all-time highs in our outstanding loan portfolio.

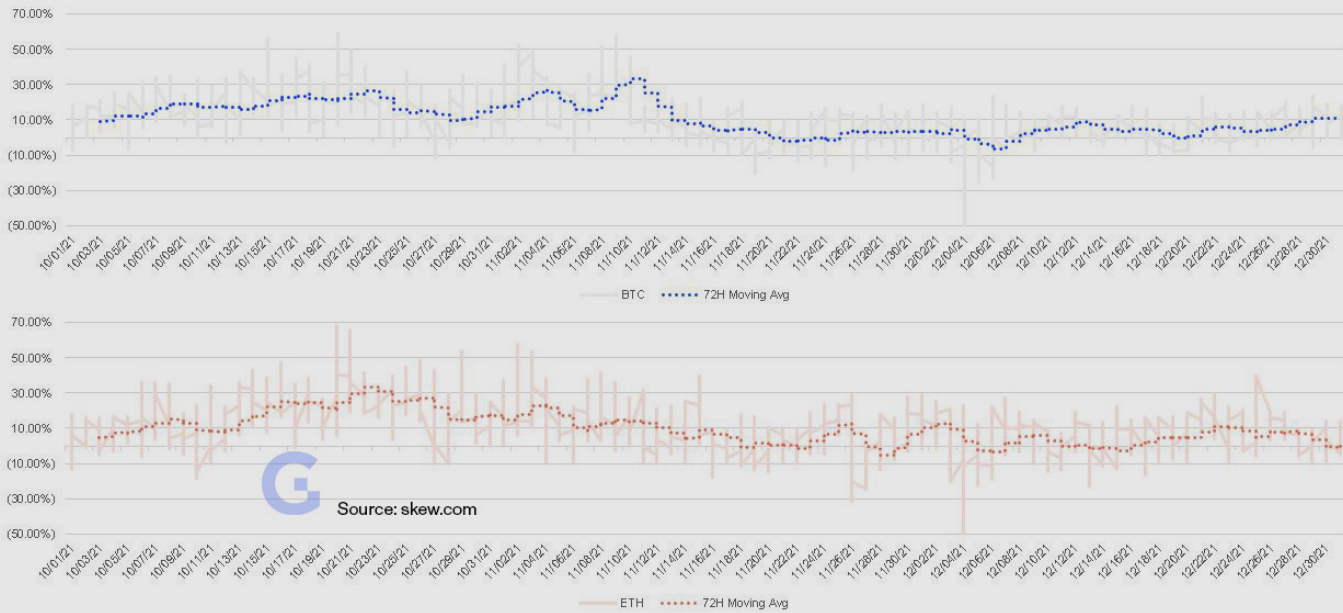


Chart 2: FTX annualized perpetual funding rates for both BTC and ETH in Q4 2021. While, directionally, funding rates matched basis, they generally lagged as rates illustrate the level of cash demand in exchange venues.

While spot markets continued to recapture new daily highs in early November, annualized basis for both BTC and ETH remained in the mid-10% range. In the meantime, perpetual funding rates for BTC and ETH crossed 30% on some major exchanges, representing higher demand for cash as investors levered up their trades.

During this period, much of the lending mix shifted toward USD and ETH originations, paired with the return of the SOL-LUNA-AVAX rotation executed by crypto native institutions to capture outsized yield. Lending also saw growing interest in DeFi 2.0 protocols and gaming tokens, signaling investors' appetite to position wider outside the risk spectrum. In the background, there were growing concerns in the macro investing community around the US Federal Reserve's posturing on high inflation. In the run-up to the FOMC's statement in mid-December, both BTC and ETH trended downwards with heightened volatility on November 26th (post-Thanksgiving Day) and December 3rd. Both days also coincided with corrections in equity markets.

During this downtrend, both BTC and ETH originations slowed while USD originations grew, continuing the insatiable demand for USD we noted in Q2 2021. USD borrowing typically correlates to an uptrend in market sentiment. In this case, investors may have preferred the flexibility USD offers, especially since the December correction wasn't as pronounced as the correction experienced in May 2021.

Similarly, alongside the compression of annualized basis for both USD and ETH—which followed through into funding rates in perpetual markets and DeFi yields—our lending desk noticed a slight ongoing compression in OTC borrow rates that continued throughout the year across all asset classes.

NFTs: A New Paradigm in Crypto Lending

Genesis is committed to continuing to bridge the gap between traditional financial institutions and digital asset markets.

As part of this commitment, over the second half of 2021, we expanded our NFT-backed lending portfolio by underwriting loans backed by high-quality, “blue-chip” NFT collateral.

Currently, most of our NFT lending volumes are driven by HNW individuals. Loans are underwritten on platforms that extract floor values on liquid NFT assets. Some existing platforms price in attributes to the NFT, but we believe this approach tends to undervalue assets and results in either unattractive loan notionals or LTV rates that don’t meet our appetite. We perceive this as a product market gap that Genesis can solve by offering bespoke terms.

In Q4, Genesis announced an NFT loan transaction with Meta4 Capital, an NFT venture capital firm specializing in acquiring rare and historically significant NFTs. Meta4 used loan proceeds to purchase three NFTs from Sotheby’s Metaverse “Natively Digital” October NFT auction.

Currently, Genesis houses curated NFT collateral while determining proper LTV for each loan. Ultimately, we are exploring the development of an institutional marketplace of participants that could launch innovative products addressing both liquidity and hedging requirements amidst recent high-profile raises of NFT venture funds. While this market is still in its nascent stages, we believe institutional adoption will continue to grow, and that the appetite for NFTs and metaverse ecosystems will continue to develop rapidly among both institutional and mainstream audiences.

3 Q4 Crypto Derivatives Market Dynamics

— by Gordon Grant, VP Quantitative Research and Trading,
and Ravi Doshi, Trader Derivatives + Spot

Against the backdrop of crypto permeating global financial markets, Q4's bated excitement progressed towards downright euphoria around the prospect of the approval of the first US-based Bitcoin ETF.

Listed BTC options open interest opened the quarter at \$7 billion and quickly doubled to over \$15 billion, as both crypto-native and traditional investors placed their bets ahead of the long-awaited ETF decision. As those positions rolled off in late November, open interest dumped precipitously and slid lower with each weekly expiry, ending the year at a still respectable \$11 billion—a 57% increase from the start of year.

BTC Options Open Interest

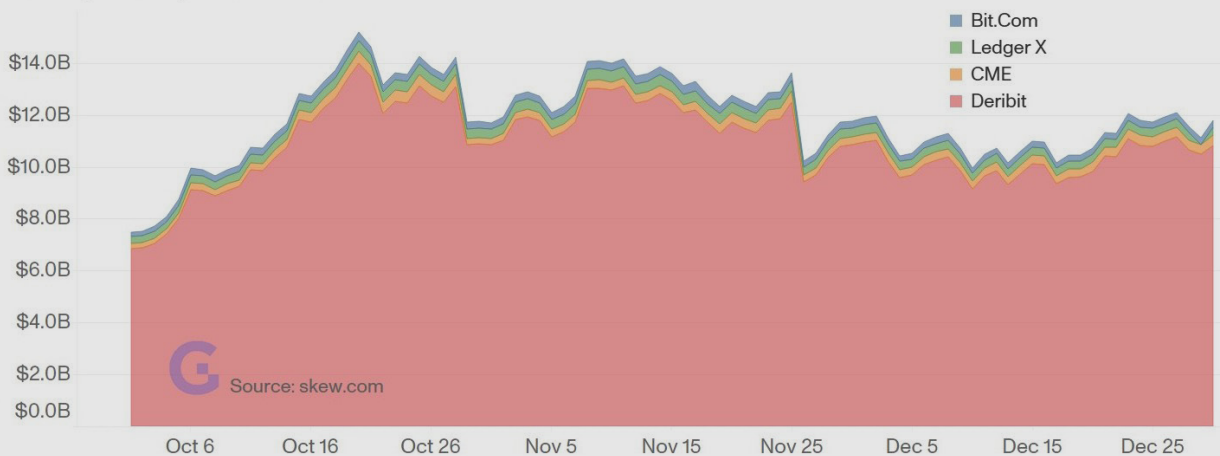


Chart: Listed BTC options open interest for Q4 showing significant bet-taking around the ETF Event.

With the ETF listing, bitcoin prices convincingly broke \$65k to set a new all-time high, taking the broader crypto market up with it. As the market leapt higher, implied vols spiked and demand for upside calls created unsustainably steep vol smiles. 1-month basis spreads blew out from 10% at the start of Q4 to over 23% as traditional finance market participants began buying thinly traded CME futures to express bullish views. By contrast, the second half of the quarter saw the market gradually lower its expectations for a blockbuster finish to 2021. BTC and

ETH experienced numerous deleveraging flash crashes culminating in a 40%+ drawdown in early December from the all-time high of \$69k. As spot sold off, 1-month basis spreads hit a low of 0.5% and call buying abruptly turned into call selling.

After the ETF launch, in spite of repeated attempts at breaking higher, client flows were markedly asymmetric in BTC. Call sellers effectively capped the market in both spot and implied volatility (IV), and—barring isolated cases such as the Thanksgiving weekend price drop and the Art Basel weekend bloodbath—we did not see particularly high implied vol levels. 1-month IV averaged 81.3% over the quarter while realized volatility (RV) was roughly 66%. In comparison, BTC 1-year IV averaged 92% while RV was 80.5% for 2021.

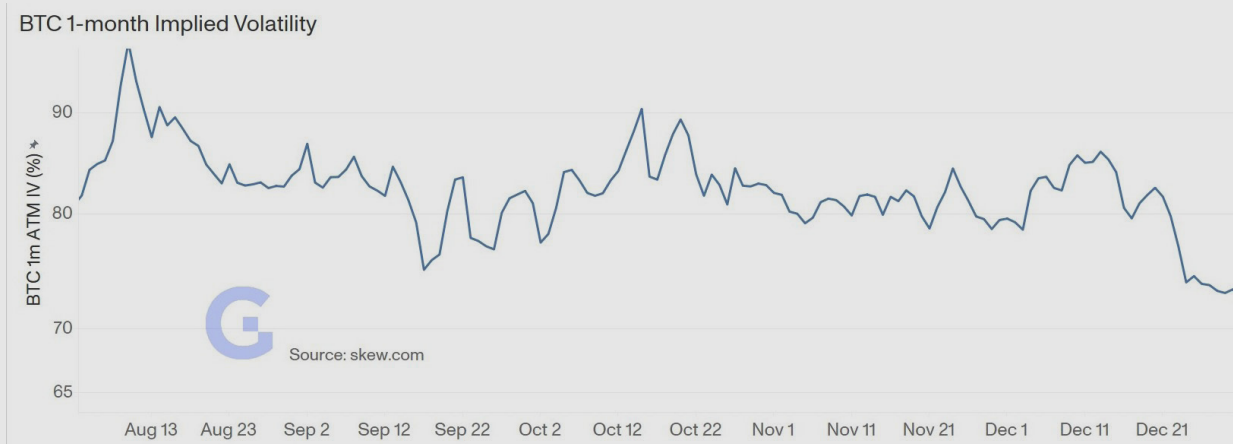


Chart: 1-month IV averaged 81.3% through the quarter, seeing a sharp decline into year-end as spot traded in a tight choppy range after recovering from quarterly lows set in early December.

Client interest to purchase vol came in fits and starts, testing the depth of BTC and ETH options markets where, on certain days, Genesis' combined OTC and exchange volumes eclipsed 50% of global daily Deribit volumes.

As bitcoin made continually lower highs and repeatedly flushed out weak hands with sharp wicks lower throughout the quarter, changes in the volatility surface caught crypto derivatives traders' attention. The flat term structure observed at the start of Q4 gave way to insatiable demand

for weekly options in both BTC and ETH around the ETF event. Genesis saw 1-week to 1-month IV spreads blowing out 30 vol points favoring the shorter date from nearly at a par in the early days of the quarter.

BTC Implied Volatility (%)

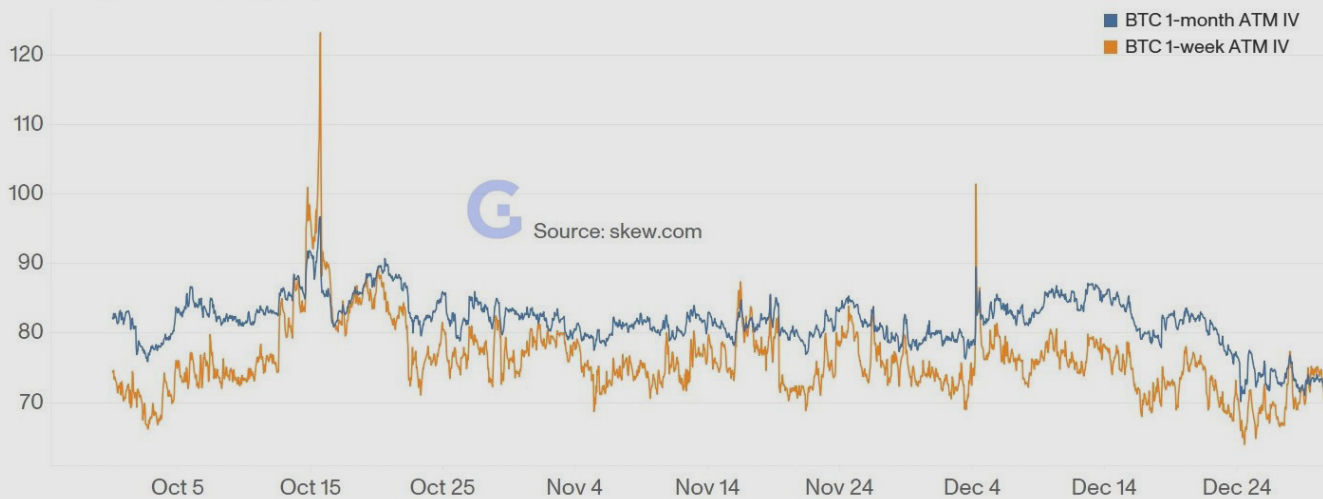


Chart: BTC 1-week to 1-month ATM implied vol spread saw a massive spike heading into the bitcoin ETF decision.

From mid-November, as ETH began to ease from the \$5,000 neighborhood, there emerged a persistent interest to purchase puts and sell calls, presumably to collar substantial gains after the near trebling from summer lows. With skews trading sharply to the call amidst ETH's unstoppable rally, Genesis suggested to clients that 1- to 3-month puts were cheap and trading costless collars could be an attractive way to take advantage of the mispricing of downside risk. Those collars began as a trickle before turning into a torrent, with a relentless bid for ETH puts and a concomitant offer in calls, particularly for the December 31st expiry. Clients that acted on this market commentary were handsomely

ETH 3-month 25D Skew

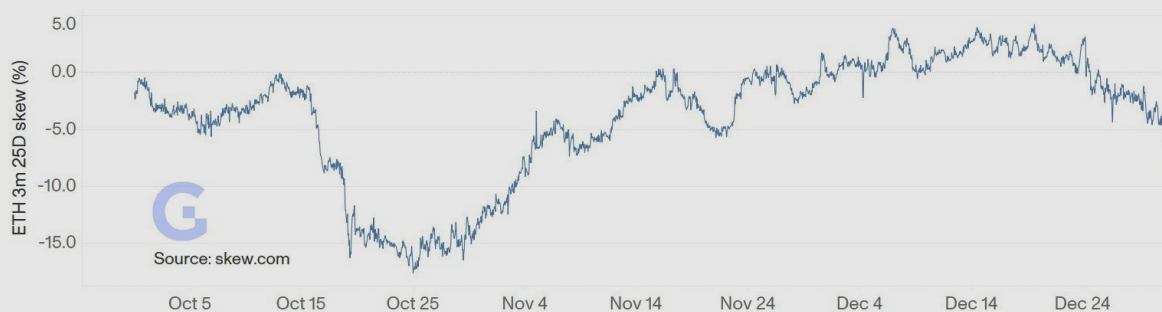


Chart: ETH 90-day skew ripped from the lows of -18% (calls over puts) seemingly in a straight line to +4% (puts over calls) in the quarter.

rewarded as the 2021 ETH skew shifted sharply to the put.

Amidst this regime shift, our desk signaled to its clients that longer-dated OTM calls remained stubbornly bid and offered a significant opportunity to call sellers. Over the quarter, the ETH 2022 expiry low-delta calls quietly deflated by some 25+ IV from their prior highs.

The story was similar in BTC, where near-dated skews initially began to tumble from well-bid for calls to well-bid for puts, as dealers started to cover short-dated downside exposure with increasing urgency in expectation of a gamma squeeze scenario in a selloff. In domino-effect style, longer-dated puts followed suit and began to trade at a material premium to calls, which was exacerbated by persistent miner call overwriting flow throughout the quarter.

Along with downward pressure on spot and skew, basis spreads were hammered and we saw the seasonal surge of take-profit interest rival the aftermath of the spring sell off. Genesis deployed new proprietary algorithmic execution strategies to continue to gain market share and provide tight pricing in this growing corner of the crypto market that remains a catch-all for both traditional finance and crypto native names.

BTC Futures Annualized Rolling 1-month Basis (%)



Chart: Q4 saw 1-month rolling basis bottom at near 0.5% before rallying back up to 9% to end the year.

Alt-Coin Options Demand Explodes

Yet there was more substance to the Q4 options story than the myopic outperformance of puts and the rollercoaster rise and fall in basis; the quarter marked our busiest of 2021 in terms of alt-coin derivatives, with combined notional volumes exceeding \$325 million.

Players took the opportunity to access still fresh vol markets in alts, mainly SOL, LUNA, AVAX, ADA, BCH and MKR, and to express both bullish and bearish views, with traded IVs that ranged from bargain-basement to the vertiginous. Our traded alt options universe broadened with significant prints in BNB, FTM, HNT, RAY and ZEN, as well as BSV, which saw a significant spike in volumes (and implied vols) around the watershed Kleiman v Wright trial.

Death DeFi-ing Growth

As the rhetorical question “Is crypto dead again?” rang across our desk throughout Q4’s downdraft, one corner of the market continued its Promethean ascent: the surge of new decentralized exchanges (DEXes). DeFi derivatives platforms, yield farms and options vaults caught the attention of even jaded natives as capital poured into new protocols. Mango and DYDX showed significant volume growth in linear DeFi derivatives, while newcomers like Chest, Dopex, Friktion and Katana joined the likes of Ribbon and offered the ease of DeFi options trading with the click of a button.

On-chain DeFi options vaults saw a parabolic rise in trading volumes with over \$1 billion in total value locked (TVL). Genesis is an integral player in the DEX ecosystem—we expect that DeFi protocols will play a much greater role in liquidity provision, price discovery and vol surface dynamics in 2022.

As a transacting party on several DeFi vaults, Genesis has seen (and participated in) market forces driving the efficiency and rationalization of pricing across disparate venues. Genesis will continue to grow our presence in this space, as we believe DEX volumes could easily usurp CEX volumes in 2022. Irrespective of where bitcoin may be tomorrow or a month from now, DeFi is here to stay and poised to make ongoing changes to the crypto ecosystem.

The ETH/BTC Cross

What does depend meaningfully on the price of bitcoin, however, is the often scrutinized ETH/BTC ratio. At the start of the year, ETH/BTC sat barely above .02 before surging fourfold to .08 before the spring selloff. Following a 40% collapse in May, it staged a remarkable recovery, surpassing prior highs on the way to nearly .09 as NFT and DeFi mania converted once fair-weather Ethersians into diehard believers.

ETH/BTC Price Ratio



Chart: ETH/BTC performed spectacularly in 2021 rallying 230% in the past 12 months.

Notwithstanding the drumbeat of Bitcoin maximalists or those who contend that ETH is plagued by punitive transaction costs, the narrative driving ETH's rise has simply been that Ethereum may serve as the foundation for the future digital asset ecosystem. The notion of a 'flipping' (when ETH's market cap will exceed BTC's—roughly .16 in ratio terms) is often seen as a *fait accompli* by one side of this heated rivalry.

In late October, the options market began to reflect 'Eth-maxi' positioning, with stratospheric bids for ETH upside wings and risk reversals blown out to the call. However, for much of the time that ETH/BTC surged in the last months of the year, participants carrying ETH/BTC longs seemingly chose to express this view in the spot market.

Seeing a market need that wasn't being addressed, Genesis began to price ETH/BTC options in early December. Unsurprisingly, daily returns of BTC/USD and ETH/USD are historically correlated as high as .85.

Quoting options in the cross, however, presents potential quanto-risk in terms of pricing conventions and necessitates selling out of the cross-vol and effectively getting long correlation near 1.0. Moreover, with limited ability to hedge the underlying pair directly, trading the spot legs individually can incur substantial slippage. These complexities resulted in ETH/BTC vol having never traded as a cross currency option until Genesis printed the very first known trade of its kind this quarter.

Since transacting the first couple of tickets, a groundswell of interest has arisen in ETH/BTC options. If the ‘flipping’ does occur, we expect meaningful fireworks in the correlation space with the potential fracturing of well-trodden paradigms. Market participants will continue to trust Genesis as a source of derivatives liquidity in this cross pair as the saga between the top two cryptocurrencies carries on.

Final Thoughts

While ‘bearish’ isn’t a mentality much in force in our universe, 2021 was if nothing else a testament to the merits of smart tactical trading around a core position. The alpha generated from implementing well-timed basis trades or call overwrites, and the drawdown mitigation realized through opportunistically buying cheap vol or collaring length, was significant. As the asset class continues to mature, the advantages of a comprehensive approach to portfolio management will continue to prove prudent.

Among Genesis’ greatest assets are our clients and the relationships we have with them. Providing strategy and timely analysis along with best-in-class execution will continue to be a core abiding principle of ours as we cast our gaze towards the next twelve months and the opportunities they may afford for our business and our clients.

About Genesis

Genesis is a full-service digital currency prime brokerage providing a single point of access for select qualified individuals and global institutional investors. Genesis combines unrivaled operational excellence, a seamless user experience, and best-in-class client service to provide the full suite of services global investors require to manage their digital asset portfolios.

The firm offers sophisticated market participants a fully-integrated platform to trade, borrow, lend, and custody digital assets, creating new opportunities for yield while increasing capital efficiency for counterparties.

Stay Connected

For more information from this report, contact us at info@genesistrading.com, or call us at (212) 668-5921.

www.genesistrading.com

[Twitter](#)

[LinkedIn](#)

[Facebook](#)

Learn More About Our Services

[About Genesis](#)

[Genesis Prime](#)

[Lending FAQ](#)

[Custody FAQ](#)

Q4 Report By:

Matt Ballensweig

MD, Co-Head Trading & Lending
mballensweig@genesistrading.com

Eugene Chang

Associate, Institutional Lending
echang@genesistrading.com

Roshun Patel

VP, Institutional Lending
roshun@genesiscap.co

Joshua Lim

MD, Head of Derivatives Trading
jlim@genesistrading.com

Gordon Grant

VP, QR and Trading
ggrant@genesistrading.com

Ravi Doshi

Trader, Derivatives + Spot
rdoshi@genesistrading.com

John Conneely

Director, Institutional Custody
jconneely@genesistrading.com

Reed Werbitt

MD, Head of Cash Trading
rwerbitt@genesistrading.com

Jordan Goldman

Chief Marketing Officer
jgoldman@genesistrading.com

Noelle Acheson

Head of Market Insights
nacheson@genesistrading.com

Disclosures

This research is for our clients only. Other than disclosures relating to Genesis, this research is based on current public information that we consider reliable, but we do not represent is accurate or complete. This research should not be relied upon as investment advice. The information, opinions, estimates and forecasts contained herein are as of the date hereof and are subject to change without prior notification. We seek to update our research as appropriate. Other than certain industry reports published on a periodic basis, the large majority of reports are published at irregular intervals as appropriate in the analyst's judgment. Genesis conducts a global prime brokerage service, integrating digital asset lending, trading, and custodial services. Genesis Global Trading, Inc., registered in the United States with the SEC as a broker-dealer, is a member of SIPC (<https://www.sipc.org>). SIPC coverage does not cover digital assets, virtual currency, cryptocurrency, or other related assets. Our salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients and principal trading desks that reflect opinions that are contrary to the opinions expressed in this research. The analysts named in this report may have from time to time discussed with our clients, including Genesis salespersons and traders, or may discuss in this report, trading strategies that reference catalysts or events that may have a near-term impact on the market price of the digital assets discussed in this report, which impact may be directionally counter to the analyst's published price target expectations for such digital assets. Any such trading strategies are distinct from and do not affect the analyst's fundamental rating or commentary for such digital assets. We and our affiliates, officers, directors, and employees, will from time to time have long or short positions in, act as principal in, and buy or sell, the digital assets and securities or derivatives thereof, if any, referred to in this research. The views attributed to third party presenters at Genesis-arranged conferences, including individuals from other parts of Genesis or its parent, Digital Currency Group (DCG), and any affiliates or subsidiaries of thereof, do not necessarily reflect those of Genesis and are not an official view of Genesis. Any third party referenced herein, including any salespeople, traders and other professionals or members of their household, may have positions in the products mentioned that are inconsistent with the views expressed by analysts named in this report. This research is not an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice. The price and value of any investments referred to in this research and the income from them may fluctuate. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Fluctuations in exchange rates could have adverse effects on the value or price of, or income derived from, certain investments. Certain transactions, including those involving futures, options, and other derivatives, give rise to substantial risk and are not suitable for all investors.