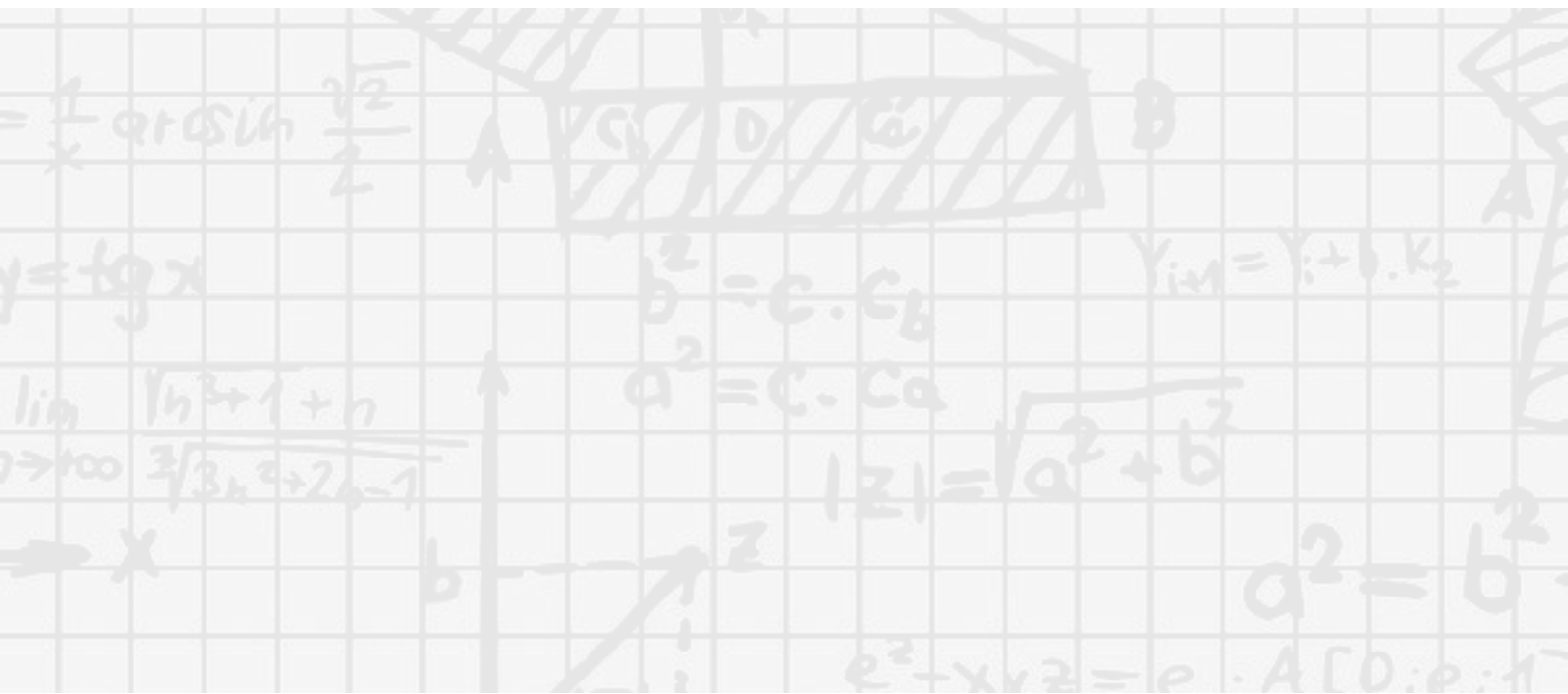


Digital Asset Markets Report

October 2022



The S2F Intelligence report examines network fundamentals using on-chain analysis, technical tools, and proprietary indicators. We aim to provide insight into how digital assets perform during these unprecedented times. By recognizing trends in both momentum and volatility, we seek to identify opportunities while navigating uncertain market conditions.



Macro Overview

- S&P 500 and DJIA indices recovered from their September lows but remain down -18.3% and -9.5% YTD, respectively. The NASDAQ has fallen -29.5% due to its exposure to the technology sector - the popular FAANG portfolio has underperformed -39.0% in 2022.
- Q3 GDP data for the US rose to 2.6%, beating economists' expectations of 2.4%. While conservative projections in future earnings numbers caution investors, the first increase in GDP economic data for 2022 was a bright spot for markets in October.
- US labor markets remain strong with a 3.5% unemployment rate - the lowest level since the late 1960s.
- Fed Chair Powell expressed the need for ongoing rate increases to combat persistent price instability and emphasized the imbalance in labor markets at the November FOMC. His remarks followed the fourth consecutive 75 bps hike and suggested the central bank is committed to tightening as forecasting a potentially higher terminal Fed Funds rate than previously anticipated.
- Investor concerns over inverted extremes between the US10Y and US2Y and the US10Y and 3-month UST curve continue to signal caution - these conditions have historically forecasted near-term downside in markets.
- 30-Year fixed mortgage rates revisit 2002 levels - 7.08% (fastest historical rate of acceleration in borrowing costs).



Macro Performance

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- Following the resignation of UK Prime Minister Liz Truss, the Pound Sterling £ to the US dollar has recovered to \$1.15.
- The benchmark European price of natural gas declined more than 70% below record highs in August.
- The Bank of Japan's long-term government bonds holdings rose 560 trillion JPY (\$3.8 trillion) in 2022 - up from 40 trillion JPY in 2008.
- Despite the ECB's recent 75 bps hike, the € euro vs. dollar is currently trading at parity.
- Gold has extended further into negative territory -9.8% YTD.
- Oil remains in a sideways \$80 - \$90 range - it is currently trading at \$86.02/barrel.
- Commodities reclaimed September drawdowns in October and continue outperforming indices - GSCI index +29.95% YTD.



On-Chain Analysis

Page 2

- **HODL Wave 1+ Year Supply:** Total Bitcoin held for 1+ year reached a new all time high with 66.42% of the total current supply - the previous ATH occurred in early September 2020.
- **Bitcoin Realized Price Distribution:** 21.62% of the total Bitcoin UTXO volume currently rests within the (\$17.8K - \$24K) price channel with thin historic on-chain price volume above and below the current range.



Technical Levels

Page 3

- **Bitcoin:** While Bitcoin found support above its 2017 cycle ATH, we remain cautious of further downside momentum if the 50d MA (\$19,609) support is lost and the 200d MA (\$24,171) cannot be reclaimed.
- **Ethereum:** Post-merge Ethereum has experienced a 99.6%+ reduction in annual token issuance (2.2K vs. 599.0K), leading it to outperform BTC in October. While the price has reclaimed the 50d MA (\$1375), it still remains below the 200d MA (\$1661).



Momentum & Sentiment

Pages 4-5

- **S2F momentum model:** momentum recently pivoted to a 75%/25% ETH/BTC allocation into the start of November.
- **Alt-season indicator:** Our indicator has not yet confirmed strength in alts as the broader trend continues to favor BTC.
- **Delta risk:** Indicators for BTC and ETH have declined substantially and recently entered risk-on extremes.



Market Radar

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- **Bitcoin Power Law:** This forecasting tool helps us estimate the future potential performance of Bitcoin as it follows the regression line of price since inception - suggesting a possible target of \$100K between Q4 2024 - Q1 2025.

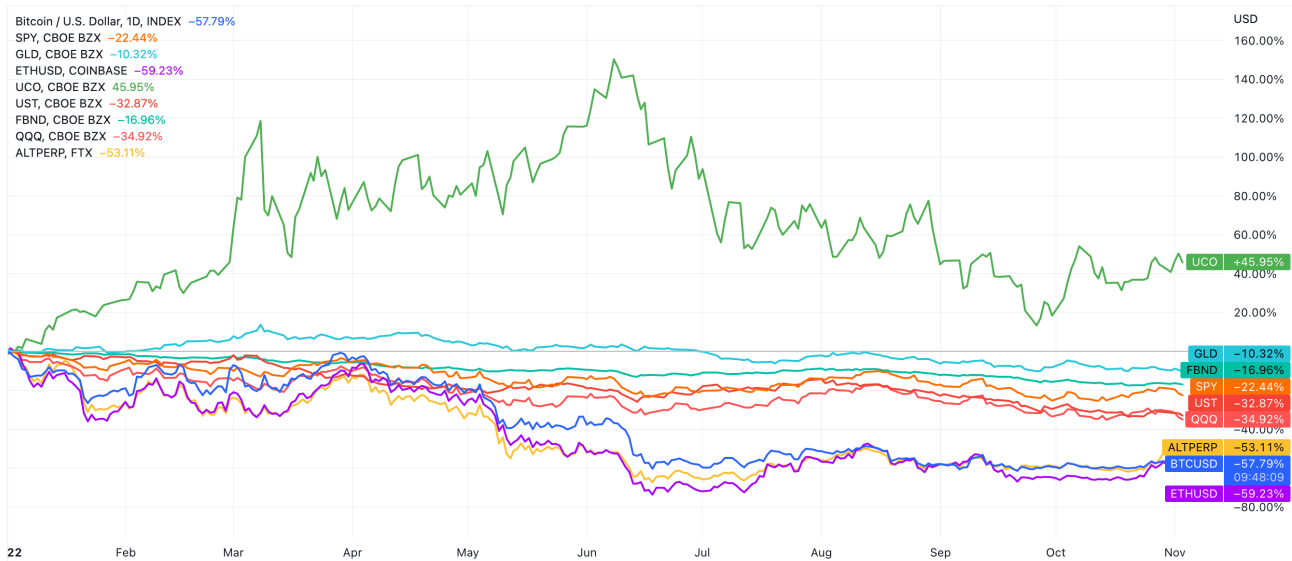


Notable News

Page 7

- Bitcoin, Ethereum, Layer One, and Other Headlines.

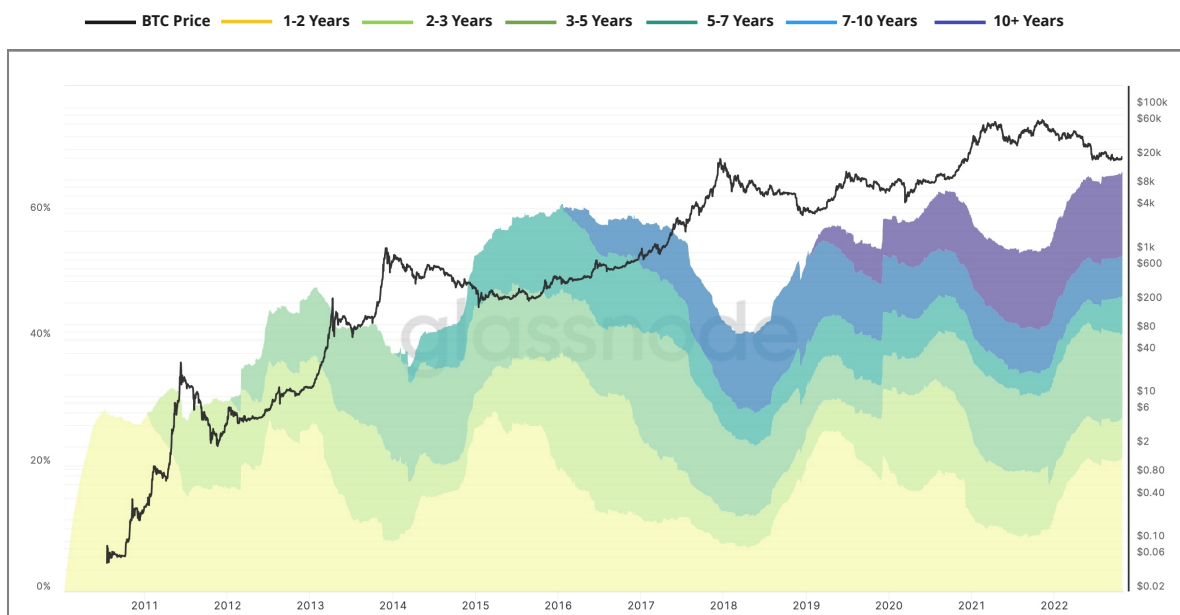
2022 Asset Returns



Asset	MtD*	QtD	YtD	Volatility (annualized)*	Sharpe (annualized)*	Correlation (to Bitcoin)**
Bitcoin	6.2%	6.2%	-57.8%	64%	-1.34	1.0
Ethereum	20%	20%	-59.2%	86%	-0.76	0.88
Altcoin Index	16.4%	16.4%	-53.1%	75%	-0.76	0.93
SPY	5.3%	5.3%	-22.4%	24%	-0.95	0.84
QQQ	3.4%	3.4%	-34.9%	31%	-0.95	0.89
GLD	-4.1%	-4.1%	-10.3%	15%	-0.79	0.85
UCO	10.8%	10.8%	45.9%	80%	0.95	0.62
FBND	-1.7%	-1.7%	-16.9%	8%	-2.70	0.79
UST	-5.4%	-5.4%	-32.8%	20%	-2.22	0.80

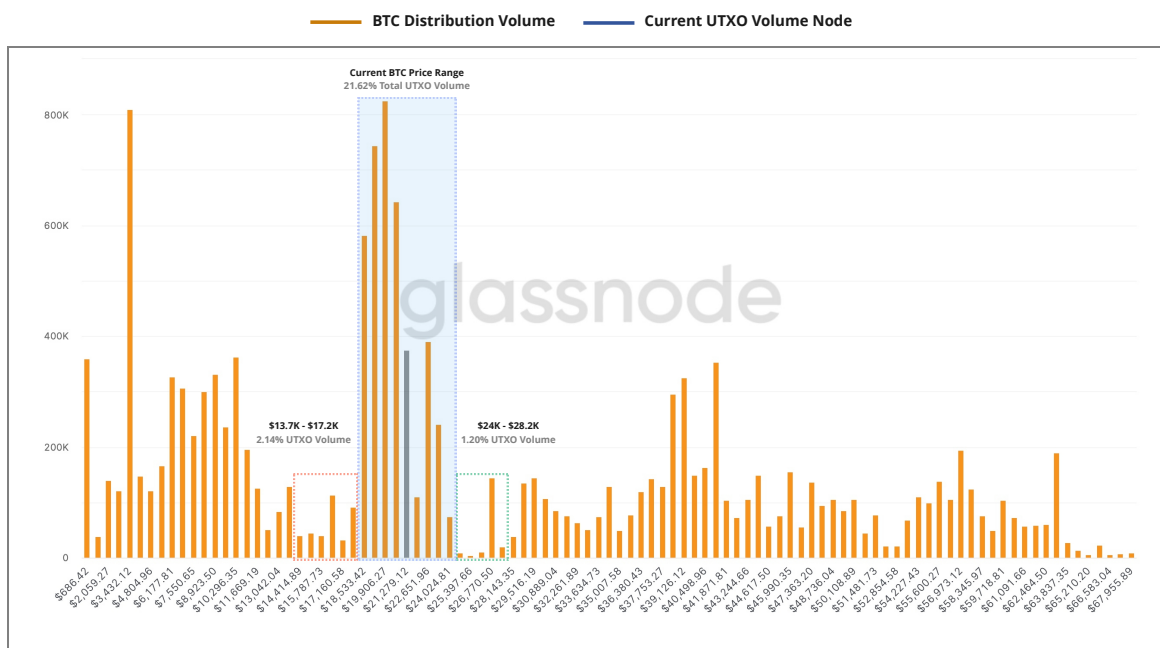
Sources: AlphaVantage, FTX
 Assets: SPY = S&P500, QQQ = NASDAQ, GLD = Gold, UCO = Crude Oil, FBND = Total Bond Market, UST = 7-10 YR Treasury, Alt-Perp (FTX) = Altcoin Index
 *as of October 31, 2022
 **last 90 days

Bitcoin HODL Waves (1 year+)



- The HODL Waves indicator reveals the active supply age bands of the Bitcoin network - each colored band shows the percentage of Bitcoin in existence that was last moved within that period.
- The proportion of Bitcoin held for more than one year reached a new all-time high of 66.42% of the total current supply - this increase represents investors' "strong hands," opting to sit on their coins through the bear market instead of capitulating and selling.

UTXO Realized Price Distribution (URDP)



- UTXO Realized Price Distribution (URDP) represents the various "cost basis," and volume of coins at specific price levels - the \$21.3K node (blue) rests above 15.30% of total on-chain volume (\$17.8K - \$19.9K) support within the current BTC price channel.
- 21.62% of Bitcoin's UTXOs volume is between \$17.8K - \$24K, with thin on-chain volume above and below the range - 2.14% of total on-chain volume between \$13.7K and \$17.2K and only 1.20% is between \$24K and \$28.2K.

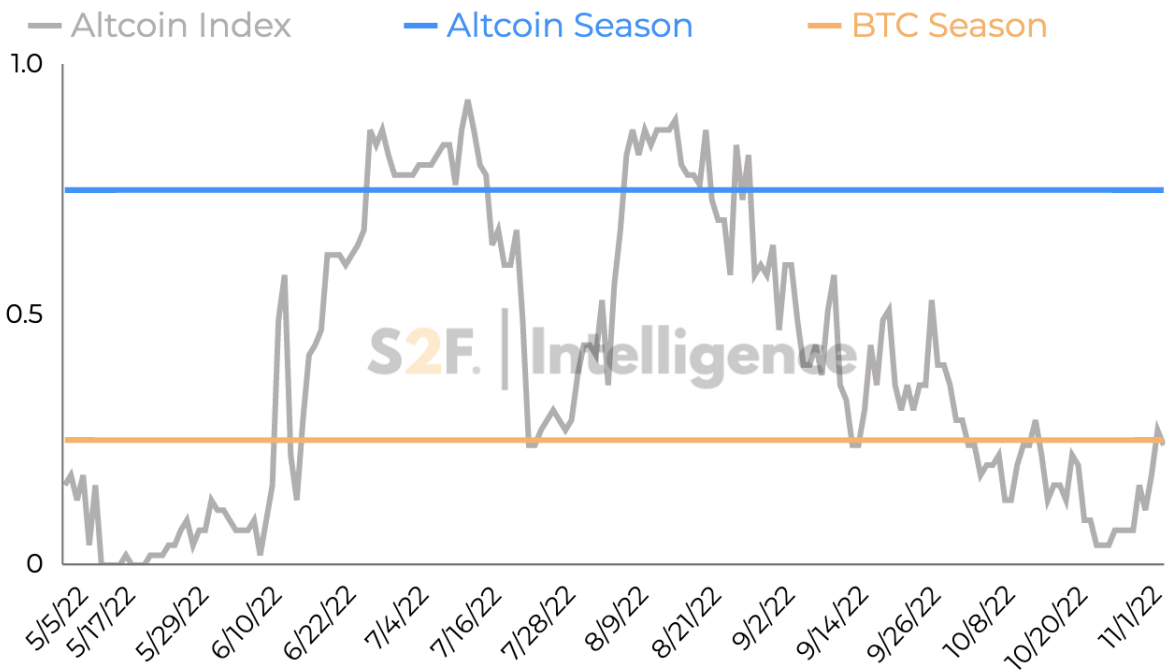
- **Bitcoin broke above the 50d MA (\$19,609)** and recently found support above its 2017 cycle ATH.
- Sell-side pressure remains in traditional markets as the Federal Reserve's outlook on monetary policy continues to apply downside pressure to risk-on assets, including Bitcoin.
- We remain cautious of further downside momentum if **50d MA support is lost** and the **200d MA (\$24,171)** cannot be reclaimed.



- **The Ethereum price initially reclaimed support above the 50d MA (\$1375) but currently remains below the 200d MA (\$1661).**
- Since the transition to PoS in September, the circulating supply of tokens has increased by ~2.2K ETH - under PoW, the circulating supply would have increased by over 599.0K ETH tokens, a reduction in annual issuance of 99.6%.
- Ethereum showed lower correlation to Bitcoin with the price of ETH outperformed BTC during October.

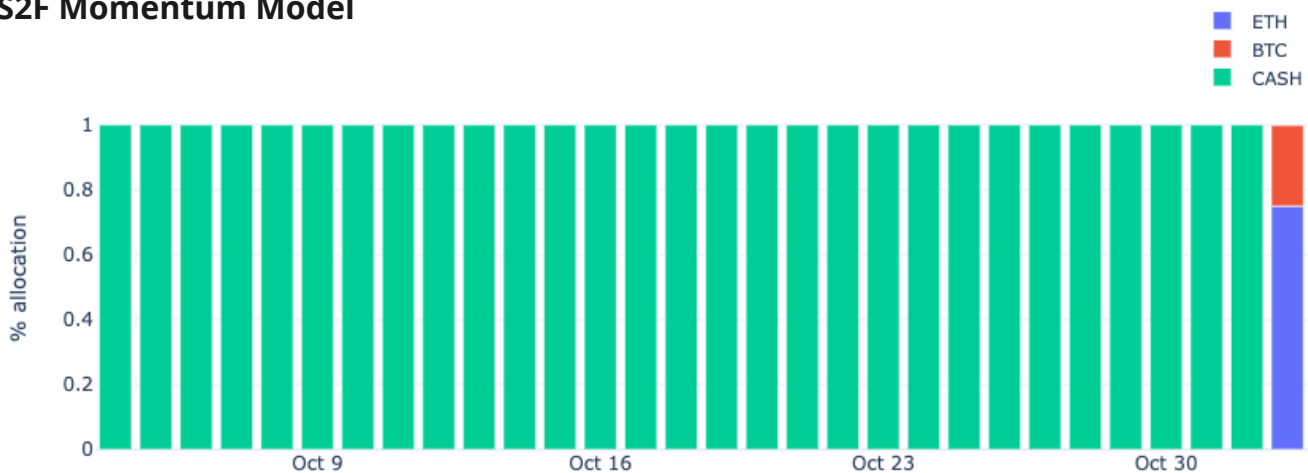


S2F Alt-Season Indicator



The S2F Alt-Season Indicator is a proprietary model that measures the capital flows between Bitcoin and a basket of major Altcoins. This indicator is especially helpful in **identifying where strength resides** in the cycle and can **potentially indicate what may happen next**. When the Index line (gray) is below the **orange line**, it generally signals strong momentum favoring Bitcoin vs. Altcoins.

S2F Momentum Model

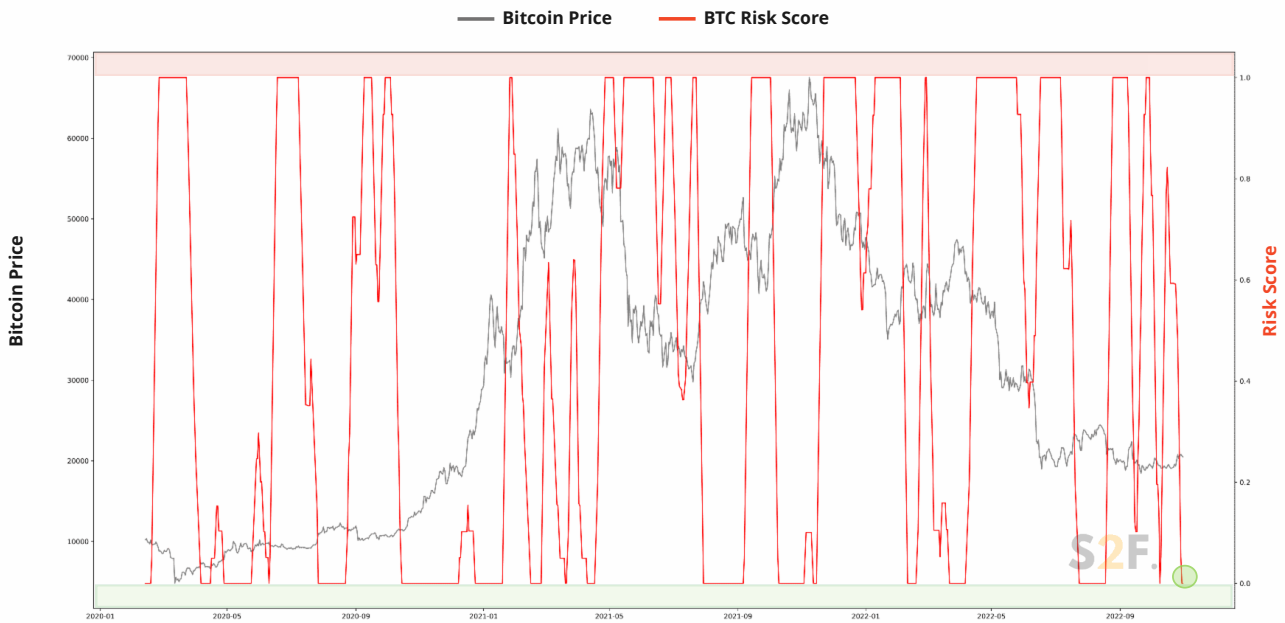


The S2F Momentum Model is a proprietary model for portfolio optimization. The **entry and exit signals rely on a risk indicator**, while the **ETH and BTC weights are based on price momentum**. The chart above shows the suggested daily allocation over the last 30 days.

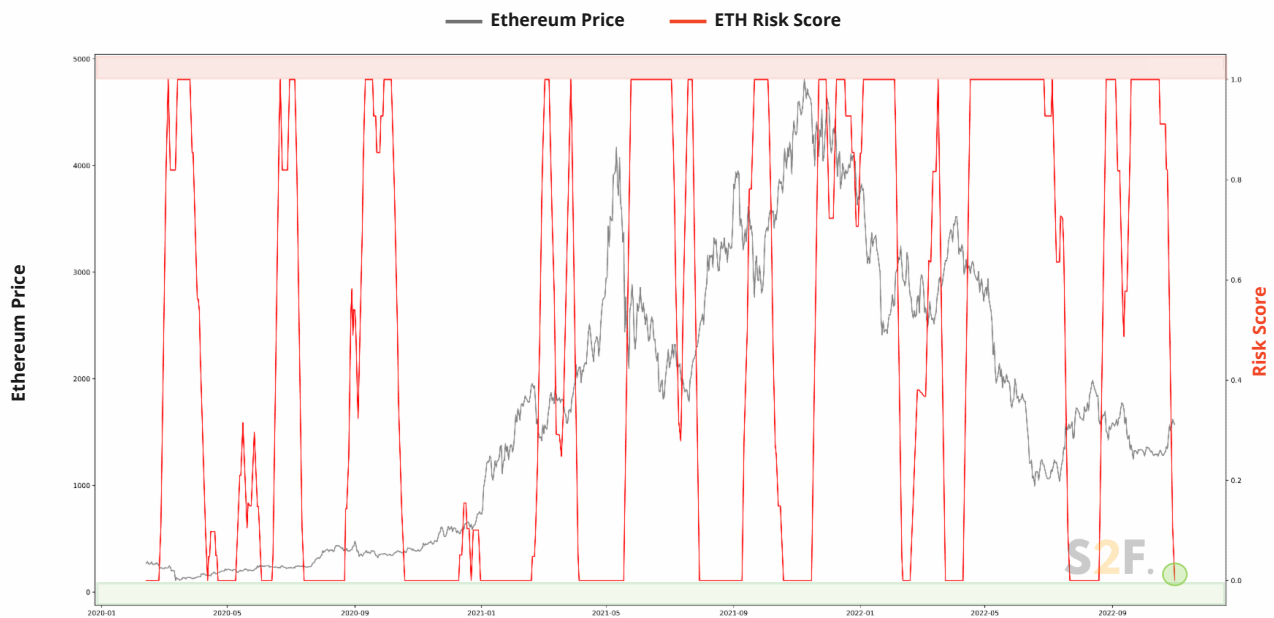
Delta Risk Score

The Delta Risk Score is a proprietary model that **measures the probability of an imminent retracement in price**. The indicator's value (**red line**) oscillates between 0 and 1, with the former signaling low-risk while the latter determines high-risk conditions. The chart below shows both indicators and the underlying asset's price (**grey line**) since Q1 2020.

Bitcoin



Ethereum



Power Law

The power law, which has historically proven to be a reliable forecasting tool for the price of BTC, indicates a potential target of \$100k with an approximate timeline of late 2024.

When examining the historical price action of Bitcoin as it ranges above and below the Power Law regression line, it is reasonable to assume that a potential reversal in price action is on the horizon, especially considering the current oversold conditions of the market (see bottom chart).



Bitcoin

- The Bitcoin total network hashrate reaches new all-time high of 321 exahash per second (EH/s).
- CashApp enables its 47 million users to send and receive Bitcoin using the Lightning Network.
- In an October 26th filing with the SEC, Core Scientific, one of the largest publicly traded Bitcoin mining companies, says it will not be able to make loan payments for October and November - enlisting the help of law firms to discuss a possible restructuring process or filing for bankruptcy protection.¹
- Bitcoin mining firm, Argo Blockchain disclosed its most recent \$27 million fundraise falls through - warning shareholders it may need to cease operations if alternative funding is not secured.

Ethereum

- At the "Regulating Financial Innovation: The Future of Crypto and Blockchain" symposium, Rostin Behnam, Chairman of the CFTC, expressed that the agency views Ethereum as a commodity - not a security.²
- Google introduced cloud-based blockchain node services for Ethereum - allowing for a fully managed node-hosting service that could minimize the need for node operations.
- The builder of leading L2 Arbitrum, Offchain Labs, purchases Ethereum's most popular consensus layer client, Prysmatic Labs. The acquisition signals the increasing influence of layer 2 scaling platforms.
- The Ethereum Foundation launches the Shandong testnet, where the latest improvement proposals will be finalized before the 2023 Shanghai network upgrade which includes EIP 4895 - allowing users to withdraw staked ETH and accrued block rewards from the Beacon chain.³

Layer 1's

- The Cosmos (ATOM) 2.0 proposal, which includes revisions to the protocol's tokenomics and funding for establishing a treasury, became available on 10/31- on-chain voting will be open for the next two weeks.
- Binance Smart Chain (BNB) was hacked for more than \$100 million - network validators temporarily froze the chain to prevent further economic losses which could have amounted to \$570 million.
- Polkadot (\$DOT) co-founder Gavin Wood steps down as CEO at Parity Technologies - the development company behind Polkadot.
- Former developers of META's stablecoin project Diem launched the Aptos network \$APT after raising more than \$200 million with the objective of matching the performance of traditional payment networks operated by Mastercard and Visa.

Other Headlines

- The world's largest custodian bank, BNY Mellon, launches a new digital asset custody platform - select clients will now be able to hold and transfer Bitcoin and Ethereum.⁴
- Hong Kong's government proposes allowing retail investors to trade in cryptocurrencies and possibly crypto exchange-traded funds to rebuild its fintech hub.
- Tether announced it eliminated \$30 billion of commercial paper without any losses and increased its direct exposure to US Treasuries by more than \$10 billion in Q3.
- The Financial Accounting Standards Board (FASB) determined companies should measure cryptocurrency assets using fair value accounting - gains and losses recorded in current period comprehensive income.⁵

¹ Cointelegraph, Core Scientific may consider bankruptcy following uncertain financial condition <https://cointelegraph.com/news/core-scientific-may-consider-bankruptcy-following-uncertain-financial-condition-report>

² Bitcoinist, CFTC Chair Reiterates Ethereum (ETH) Is A Commodity While SEC Disagrees <https://bitcoinist.com/cftc-chair-reiterates-ethereum-eth-is-a-commodity/>

³ Yahoo Finance, Ethereum Launches Testnet to Begin Work on Shanghai Upgrade <https://finance.yahoo.com/news/ethereum-launches-testnet-begin-shanghai-213239391.html>

⁴ BNY Mellon, BNY Mellon Launches New Digital Asset Custody Platform <https://www.bnymellon.com/us/en/about-us/newsroom/press-release/bny-mellon-launches-new-digital-asset-custody-platform-130305.html>

⁵ CPA Practice Advisor, FASB Decides on Accounting Method for Crypto Assets <https://www.cpapracticeadvisor.com/2022/10/13/fasb-proposes-accounting-method-for-crypto-assets/71714/>

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