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Digital Asset Markets Report

January 2023

Summary

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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&P500 and Dow began 2023 up 6.7% and 2.7% YTD, respectively, while the NASDAQ is up 10.0%.
- Federal Reserve approved a 25 bps hike at the February FOMC - raising the federal funds target to 4.5% - 4.75%.
- CME Group Fed Funds futures are pricing in a 90.8% likelihood of a 25 bps hike and a 9.2% chance of a 50 bps increase at the March FOMC.
- Labor markets signaled ongoing strength, with 11.01 million available jobs and non-farm payroll adding 517,000 jobs in January.
- Retail sales M/M reported 2.3%, which came in above economists' expectations of 0.9% - last month's data was -1.1%.
- US10Y and US3M spread reached a historic level inversion in January at -1.32 and has begun to recover to the upside to -1.03.

Macro Performance

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- Digital assets' total market cap rose from 771.8 billion to above 1 trillion in January before settling at 995.8 billion.
- GLD (Gold ETF) continues its positive performance, +4.9% on the year.
- The reopening of the Chinese economy has raised concerns over the impact it could have on crude oil; currently $78.21/barrel.
- Since outperforming indices in 2022, the GSCI commodities index is down -0.1% in 2023.

On-Chain Analysis

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- **Bitcoin Cost-Basis Accumulation:** During bear market conditions a distance forms between LTH realized price and STH realized price. Cycle 1: 42.9%, Cycle 2: 30.8%, and Cycle 3: 21.4%. YTD current LTH distance compressed from 20.7% to 14.3%.

- **Stablecoin Exchange Net Position Change:** Post-FTX collapse net exchange stablecoin outflows reached historic extremes. YTD, 30-day stablecoin outflows have declined but have not confirmed a reversal in the trend supporting exchange inflows.

Technical Levels

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- **Bitcoin**: BTC has confirmed a "golden-cross" technical structure where the 50d SMA crossed above the 200d SMA. Price action is currently retesting prior resistance near August's local highs before Q4's FTX collapse.

- **Ethereum**: ETH technicals currently mirror the 50d and 200d SMA "golden-cross" on Bitcoin. Despite positive structure, investors remain leery of sell-side pressure in anticipation of unlocked staked ETH withdrawals.

Momentum & Sentiment

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- **S2F momentum model**: While sidelined for most of December, the model rebalanced to BTC and ETH exposure in January.

- **Alt-season indicator**: The indicator shows the broader trend pivoting towards a more neutral zone between Alts and BTC.

- **Delta risk**: Indicators pivoted and recently entered risk-on territory to start 2023 after a risk-off December.

Market Radar

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- **Monetary Tightening :** For the first time ever, there was a contraction in the M2 money supply. November and December saw the first two consecutive negative prints (Y/Y) since data has been made available.

- **Consumer Data:** Y/Y increases in credit card interest rates, consumer loans, and delinquency rates while Y/Y personal savings decline could set the stage for potentially turbulent economic conditions ahead.

- **US10Y / $US3M:** Post WW II there have only been 8 instances when an inversion in yields has occurred between the 10-year and 3-month treasury - all were followed by a recession in the next 12-18 months.

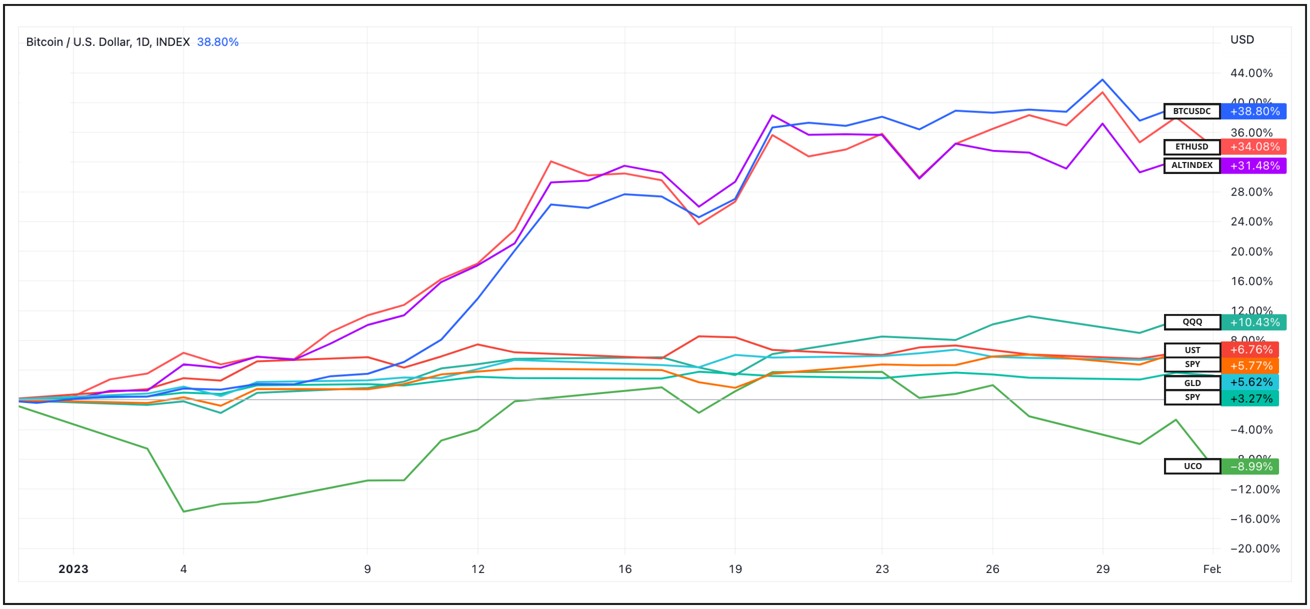
- **Federal Reserve Dual Mandate:** While the Fed has the mandate to accommodate favorable employment conditions without adversely impacting inflation, if unemployment trends higher too quickly, it could impact risk-on assets negatively.

Notable News

Page 10

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

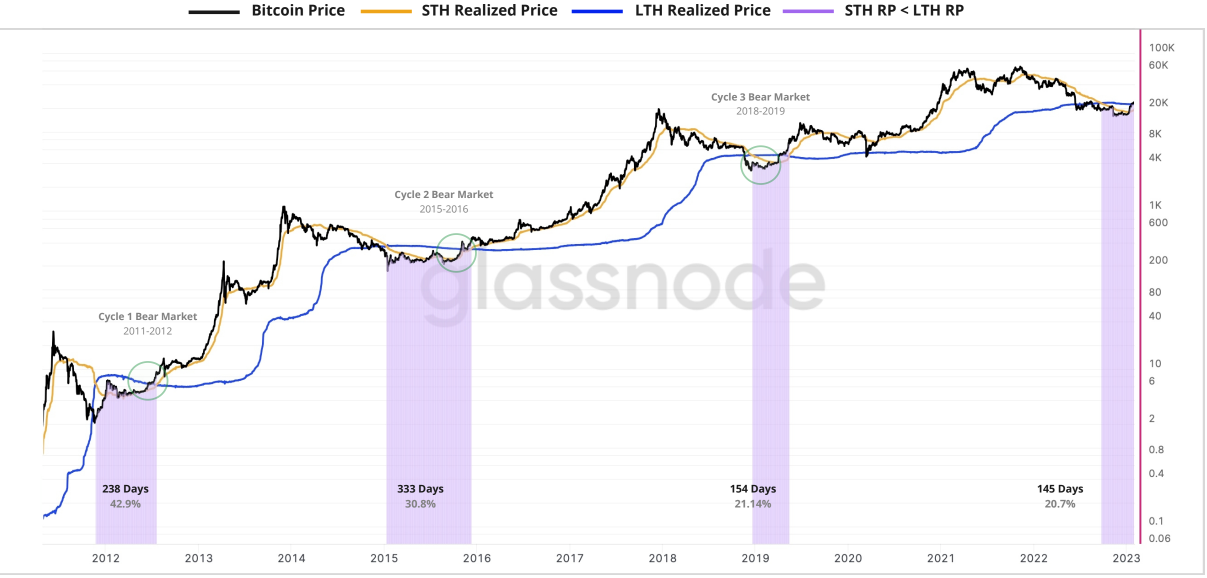
2023 Asset Returns



Asset	MtD*	QtD	YtD	Volatility (annualized)*	Sharpe (annualized)*	Correlation (to Bitcoin)*
Bitcoin	39.2%	39.2%	39.2%	0.45	8.98	1.0
Ethereum	32.1%	32.1%	32.1%	0.53	6.69	0.96
Altcoin Index	37.4%	37.4%	37.4%	0.55	7.26	0.78
SPY	6.7%	6.7%	6.7%	0.23	1.27	0.27
QQQ	10.0%	10.0%	10.0%	0.28	1.43	0.36
GLD	4.9%	4.9%	4.9%	0.16	1.43	0.54
UCO	4.2%	4.2%	4.2%	0.65	0.32	0.38
FBND	3.5%	3.5%	3.5%	0.09	1.27	0.40
UST	4.8%	4.8%	4.8%	0.22	0.48	0.28

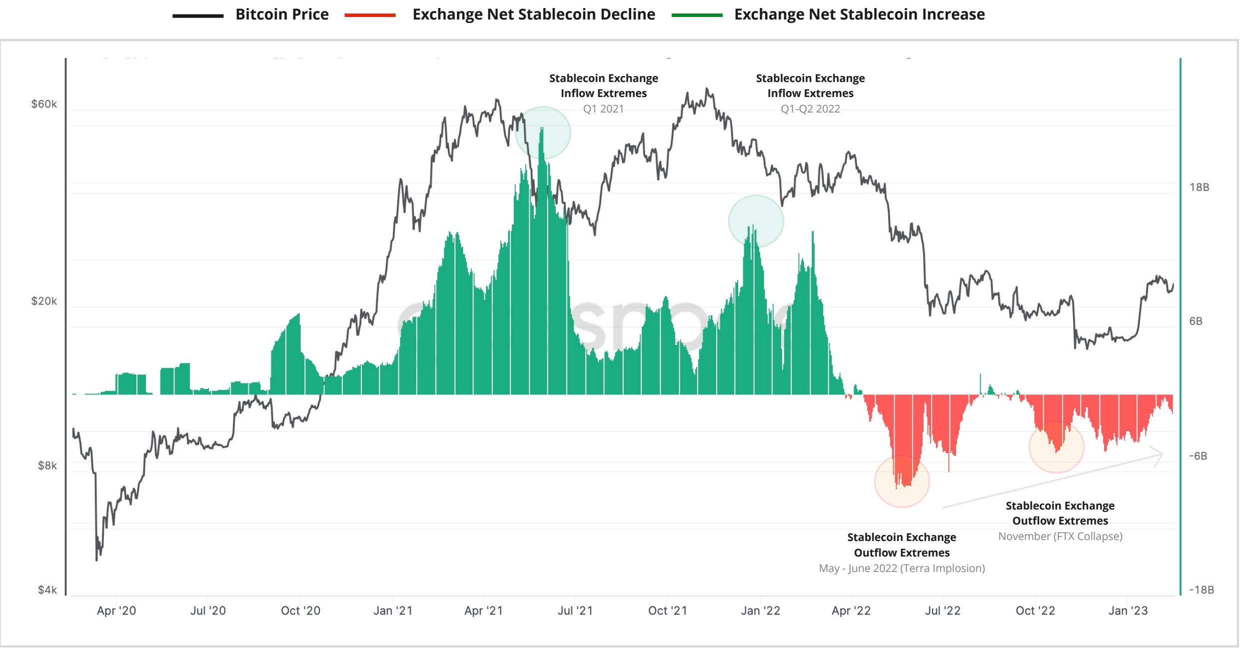
Sources: AlphaVantage, TradingView
Assets: SPY = S&P500, QQQ = NASDAQ, GLD = Gold, UCO = Crude Oil, FBND = Total Bond Market , UST = 7-10 YR Treasury, S2FALTINDEX = Altcoin Index
*last 90 days as of January 31, 2022

Cost Basis Accumulation



- The heart of a Bitcoin cycle's bear market occurs when the short-term holders (**STH) realized price** (**orange**) falls below the long-term holders (**LTH) realized price** (**blue**). This condition leads to a distance between LTH realized price and STH realized price (**purple**).
- Extremes in the distance between LTH and STH realized price has declined in each bear market. 2011-2012: reached 42.9%. 2015-2016: reached 30.8%. 2018-2019: reached 21.4%. Current distance reached as high as 20.7% in 2022 but has compressed to 14.3% in 2023.

Stablecoin Exchange Net Position Change (30d)



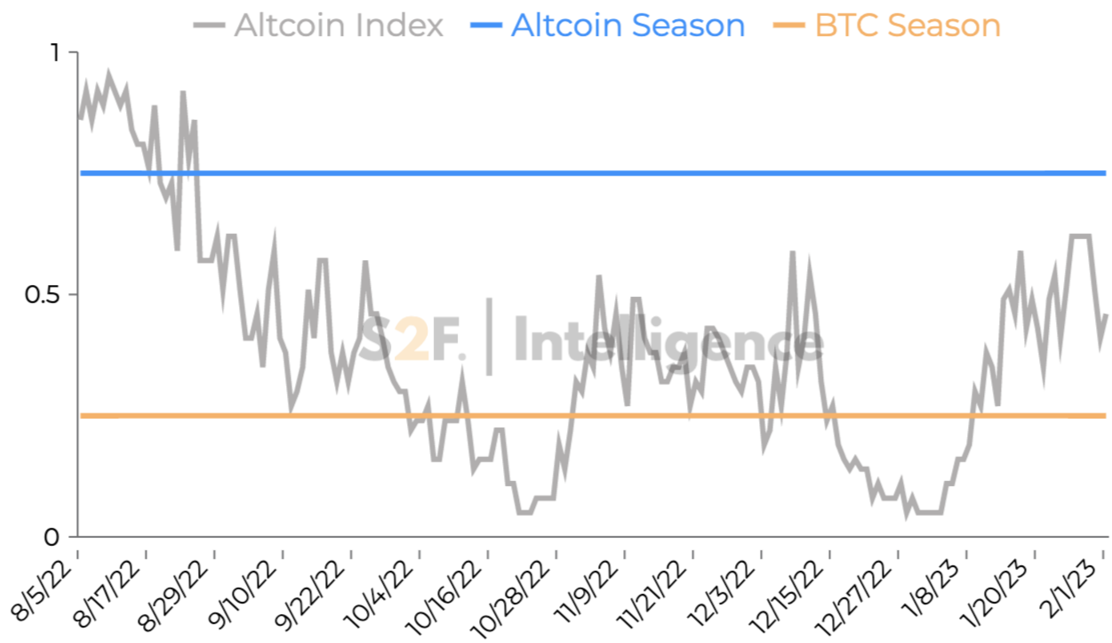
- Stablecoin (*digital assets pegged 1:1 to the US dollar*) exchange net position change (30d) measures the stablecoin supply held on exchanges. This basket includes the top four stablecoins on the Ethereum blockchain (USDT, USDC, BUSD, and DAI).
- Following the collapse of Terra and FTX, **net exchange stablecoin outflows** (**red**) reached historic extremes. YTD, the 30-day trend in outflows has reverted to the upside - a confirmed **30d stablecoin inflow** (**green**) could align with a recovery in price for digital assets.

Technical Levels

- **Bitcoin is holding well following the "Golden Cross" technical structure of the 50d MA crossing above the 200d MA.**
- Bitcoin had its best January performance since 2013 - the price is currently trending towards last August's levels of resistance.
- Price action is approaching Q3 2022 resistance - we remain optimistic as Bitcoin establishes support above the **50d MA** and **200d MA.**

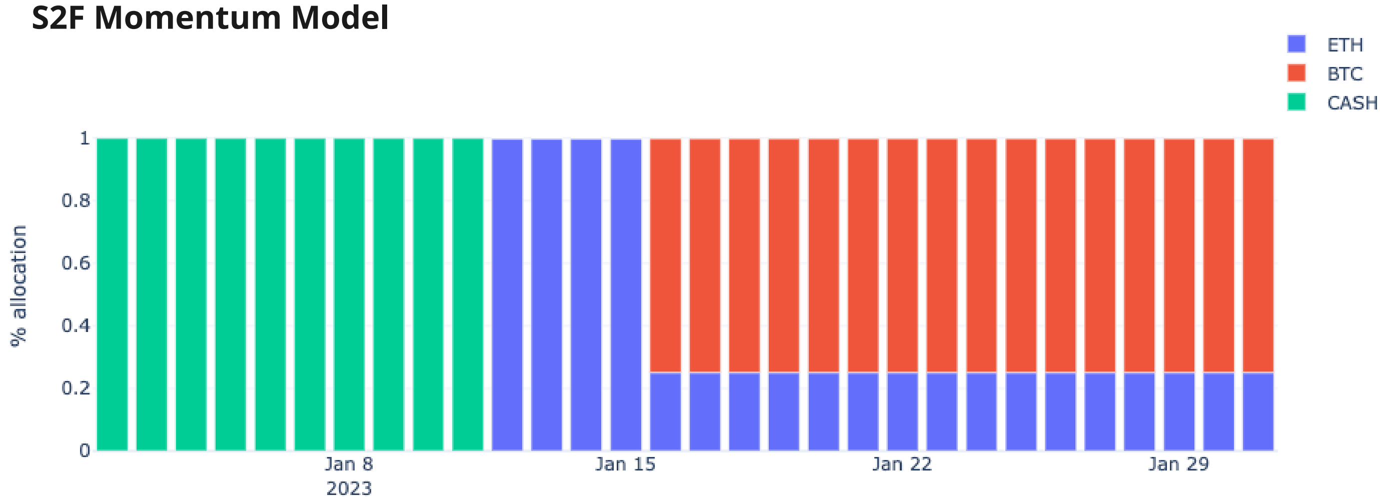
- **Ethereum is also holding well following its "golden cross" confirmation above the 50d MA and 200d MA.**
- Concerns persist over potential sell-side pressure from staked ETH holders when tokens are unlocked in Q1 2023.
- Ethereum has underperformed YTD against Bitcoin's price action - BTC total market dominance has risen to over 44%.

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.

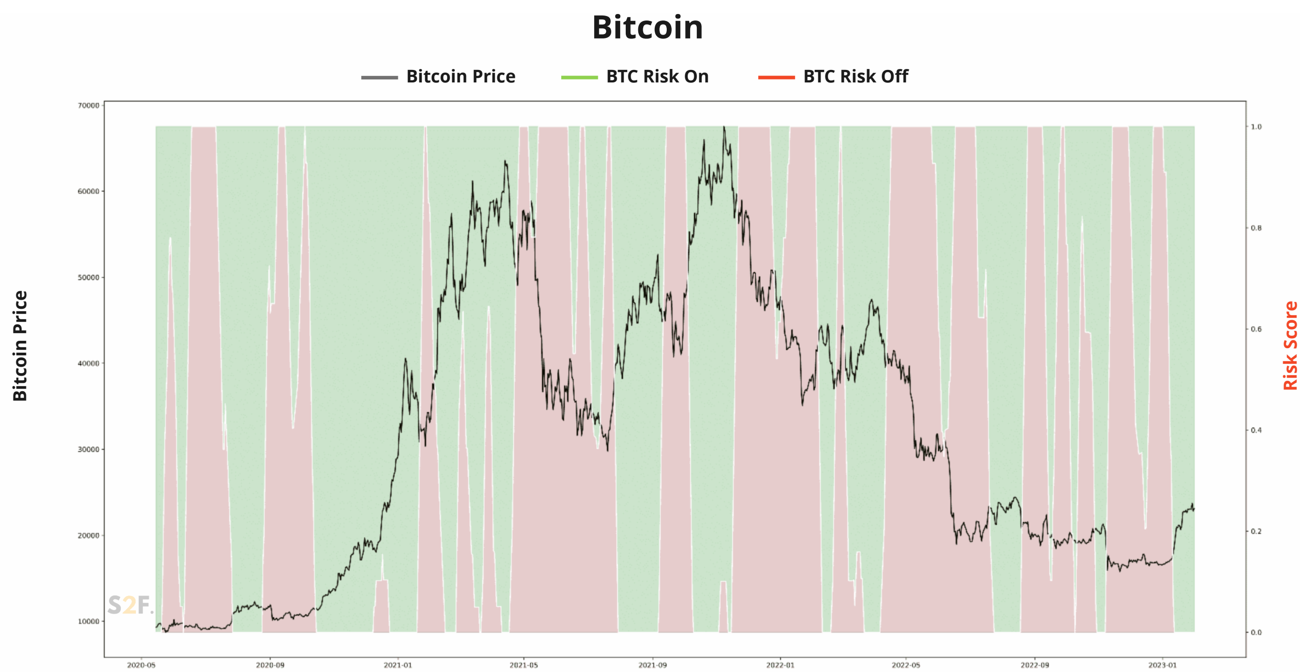
S2F Momentum Model

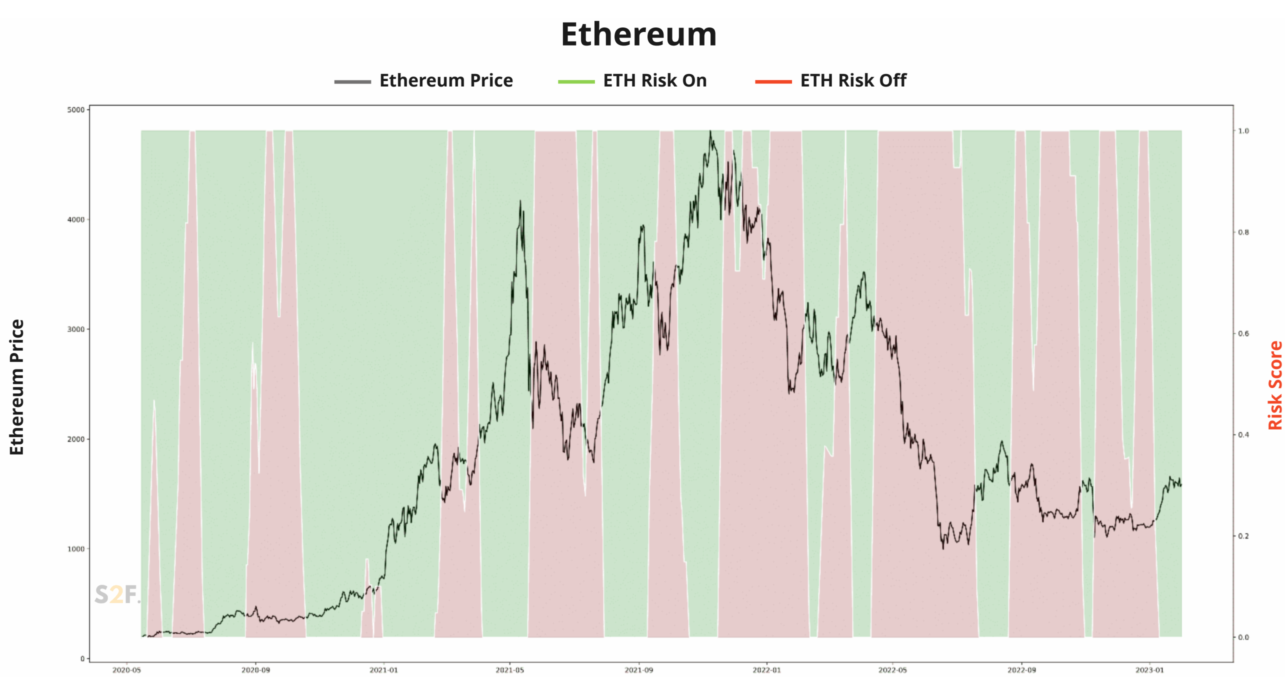


The S2F Momentum Model is a proprietary model for portfolio optimization. The **entry and exit signals rely on a risk indicator,** while the **ETH and BTC weights are based on price momentum**. The chart above shows the suggested daily allocation over the last 30 days.

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 oscillates between 0 and 1, with the former signaling low-risk (green) while the latter determines high-risk conditions (red). The chart below shows both indicators and the underlying asset's price (**black line**) since Q2 2020.





Unprecedented monetary tightening

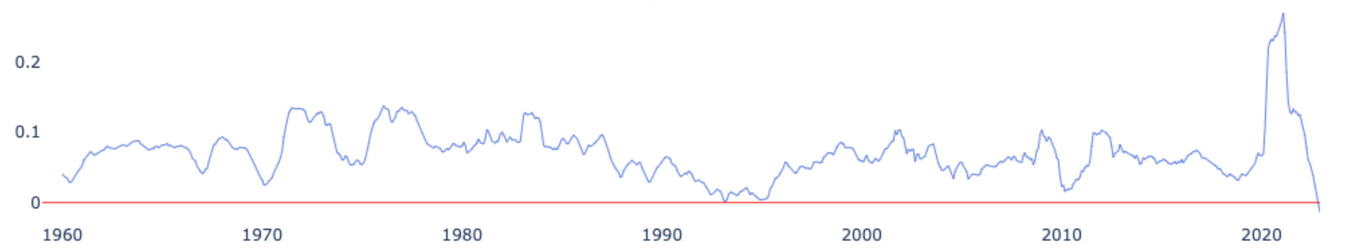
November saw the first-ever negative print for the M2 money supply. A second negative print Y/Y followed in December, making these two subsequent prints historically unprecedented.

This contraction of the money supply comes after the drastic expansion of M2 used by the US government to avoid the economic downturn caused by the pandemic in early 2020.

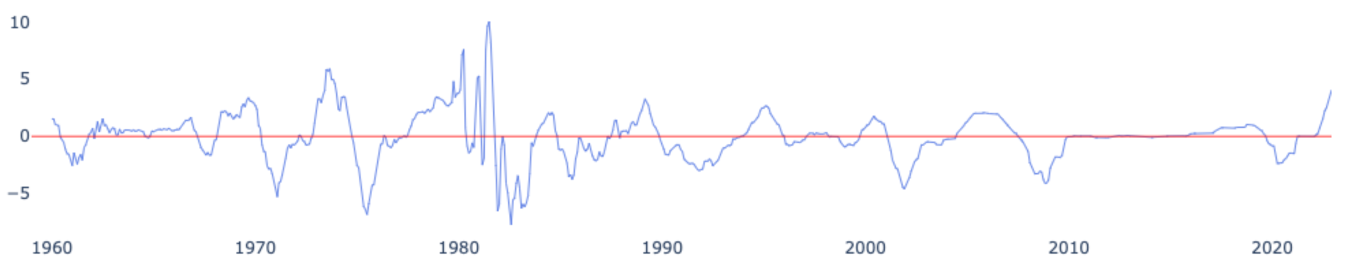
The shrinkage of the M2 money supply is a direct product of strong monetary tightening measures employed by the Federal Reserve, which started hiking interest rates aggressively in Q4 2021.

The rate of change in the Fed funds interest rate is currently sitting at a level not seen since the late 80s. Another salient point is that historically, once inflation rises above 5%, it has never come back down without the Fed funds rate exceeding CPI.

M2 Money Supply (Y/Y % change)



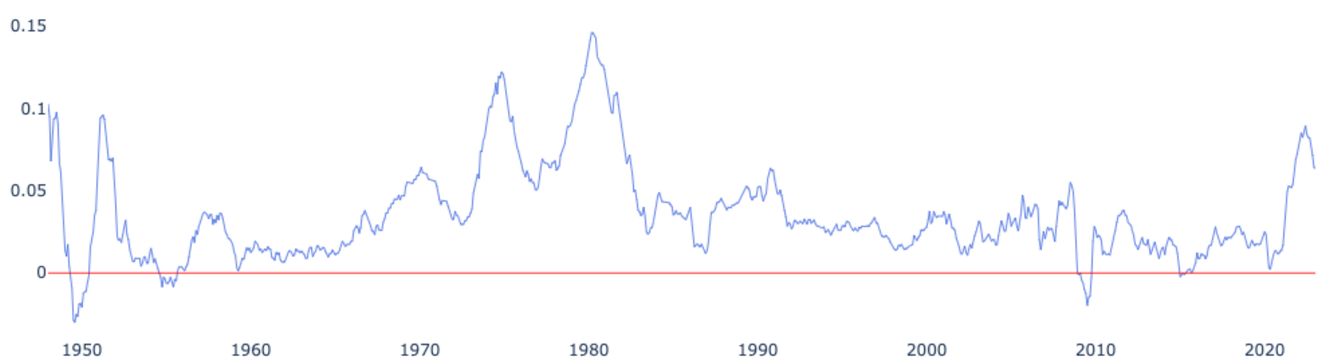
Federal Funds Interest Rate (Y/Y)



Consumer Price Index (CPI) Momentum

Individuals have been facing much higher prices over the past few years. While the rate of CPI change appears to be losing momentum, consumers are still feeling the strain of inflation as prices are far above their previous levels from just two years prior.

CPI (Y/Y % change)



Consumer Outlook

The growth rate of consumer loans has reached levels last seen in 2008 (not including the 2010 irregularity). However, the year-over-year rate of change in consumer loans is flattening, likely due to the fear of an upcoming recession. The positive growth since 2020 is partially due to the inflation that consumers have experienced.

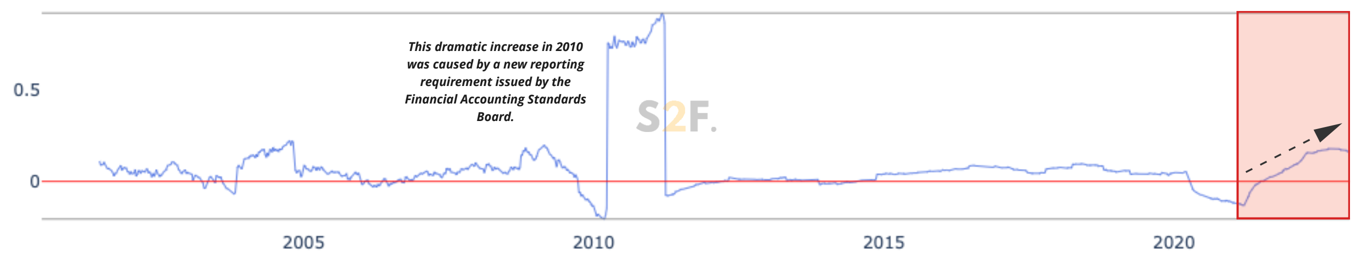
Total outstanding credit card debt and credit card interest rates are both at all-time highs. Consumers have had to keep up with this pace to service the debt they assumed. (FRED data goes back to 1995)

Additionally, delinquency rates have spiked to levels last seen since 2008. Consumers need help with monthly debt service payments due to inflated costs of everyday goods.

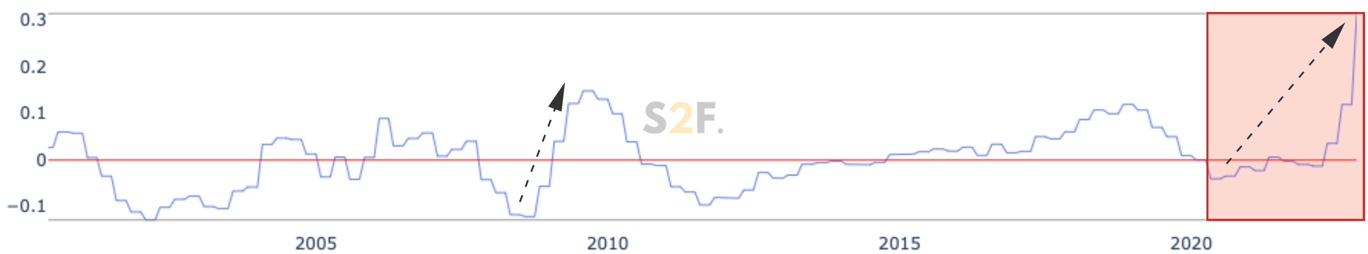
Another product of these compounding circumstances is a steady decline in the personal saving rate.

Consumer reliance on job security to cover daily expenses grows as they spend more and save less. If the unemployment rate rises, given the current economic conditions, many of these components for consumers start to unravel which could fuel an economic downturn.

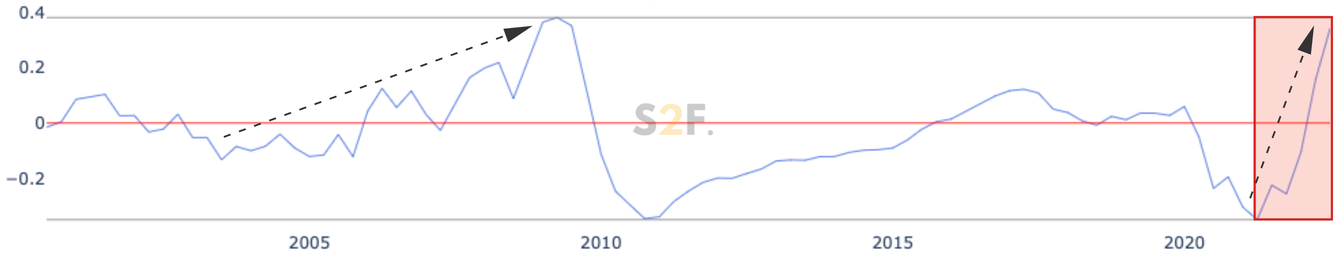
Consumer Loans (Y/Y % change)



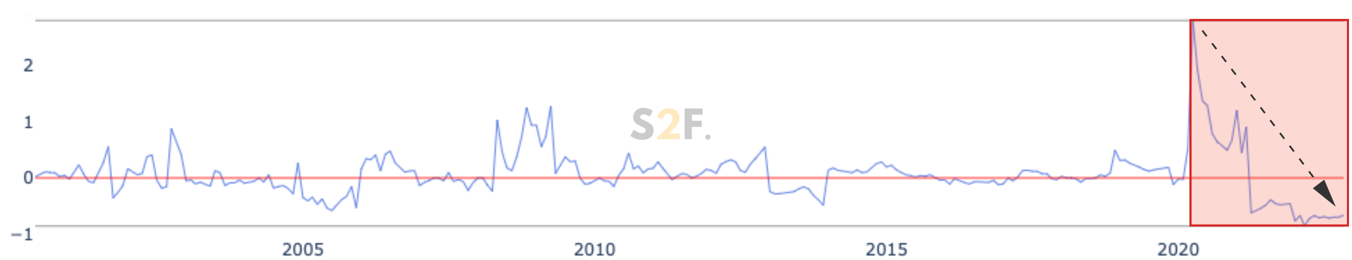
Credit Card Interest Rate (Y/Y % change)



Delinquency Rate (Y/Y % change)

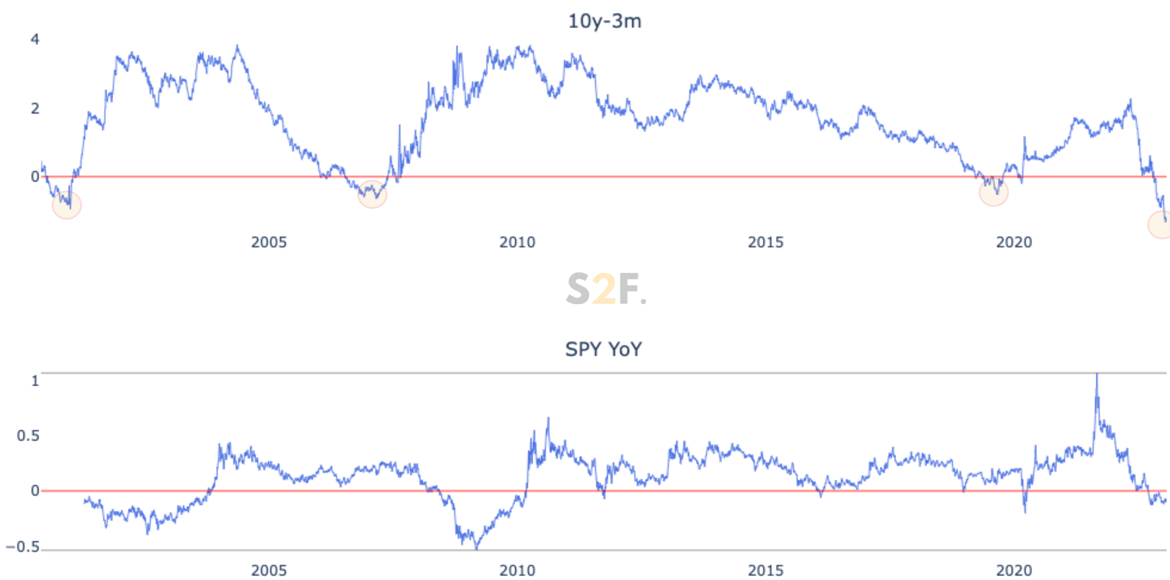


Personal Saving Rate (Y/Y % change)



Recession Signal - Inversion Yield Extremes

Another signal for a potential economic downturn is the current spread between the 10-year and 3-month treasury yield. Post WWII, there have only been eight instances when this inversion has occurred - all were followed by a recession in the following 12-18 months.

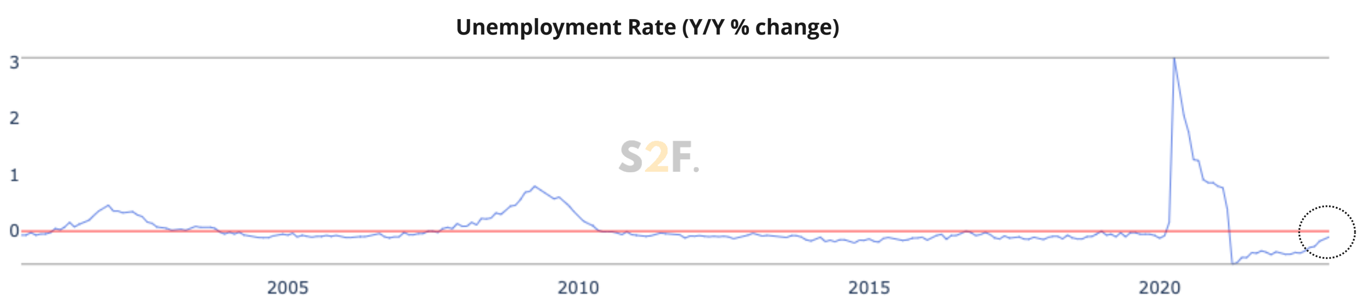


- The 10-year and 3-month spreads are at historically steep levels of inversion, and as January draws to a close, the curve has already begun to recover from inversion extremes (-1.32 to -0.98).
- In the past, this inversion structure occurred towards the end of the Federal Reserve's hiking cycle - a downturn in economic conditions usually follows as the curve reverts to the upside.
- Hawkish remarks from Fed Chair Powell paired with the present yield inversion temper upside for risk-on assets in the short term. On the other hand, these forces could also help suppress another wave of inflation by deterring irrational consumer confidence.

Unemployment Catalyst

If the inversion spread between the 10-year and 3-month yields continues to unwind and a recession follows, unemployment is likely to increase. US unemployment stands at 3.4%, its lowest rate since 1969 but still 1.2% below the Fed's December target rate of 4.6%.

- As rising input costs compress general business profitability, there is a slight uptick in layoffs. A pivot in wage losses coupled with improperly positioned consumers could compound economic hardship and trigger a potential recession.
- While current US job openings remain at elevated levels, if unemployment trends higher too quickly, it could force the Fed to interject.

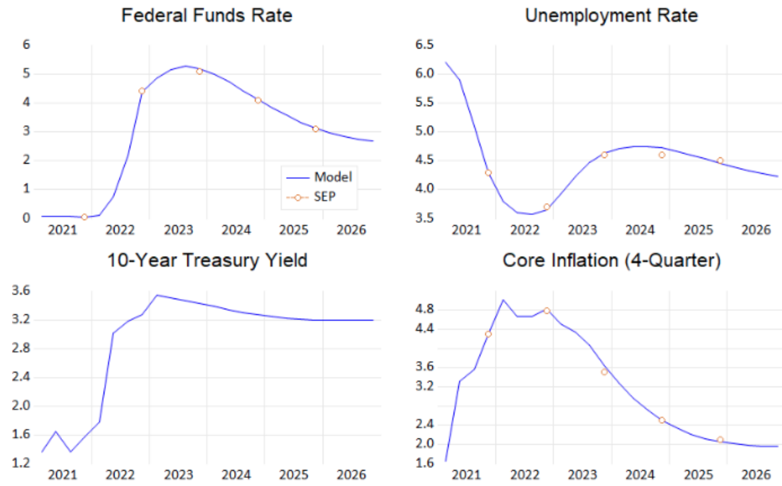


Federal Reserve's Narrative

The Federal Reserve responded to inflation with an aggressive Y/Y pace of interest rate hikes in 2021-2022. Monetary policy was so extreme it led M2 to contract in November for the first time in over 30 years and the most recent Y/Y M2 decline in December was its lowest on record.

- The Fed's monetary policy framework FAIT (Flexible Average Inflation Targeting) targets an annual rate of 2% inflation.
- Inflation data peaked in June at 9.1% and has since begun to trend to the downside. In December M/M CPI declined by -0.1% while Y/Y CPI fell to 6.5% (lowest levels since Q4 2021).
- Quarterly US GDP data also came in above projected expectations of 2.8% - growing at a Q/Q rate of change of 2.9%.
- The Fed projected a 0.5% change in real GDP for 2023 and a 5.0% - 5.25% terminal rate - tighter monetary policy is the best course to restoring inflation to a manageable level.

Federal Reserve SEP



Possible Outcomes

Discouraging macro data presents challenges for investors, but at what point could over-tightening present a systemic risk to the economy? Below we offer two forward-looking scenarios that could potentially result in an upside or downside resolution for risk-on assets.

Soft-Landing

- Fed has a "dual mandate" to engineer conditions that accommodate maximum employment or the lowest unemployment levels while maintaining "stable prices".
- A series of 25 bps increases or pause in hikes without the premature rate cuts could gradually reduce inflation while circumventing a highly anticipated recession.
- Prolonged disinflation from ATHs could be a positive outcome for risk-on assets which could prompt a downside revision of the projected Fed terminal rates for 2023/2024.

Recession

- The longer inflation conditions persist, especially in the service and shelter sectors, the higher the likelihood that the Fed terminal rate is revised to the upside.
- The negative outcome not only for risk-on assets, but the economy as a whole would be a sharp increase in unemployment leading to a large unwind in credit markets and economic depression.
- The Federal Reserve could be forced to interject with less restrictive monetary policy in an effort to stimulate the economy, thereby exacerbating inflationary pressure and creating favorable conditions for a subsequent uptrend in risk-on assets.

Without a resolution of inflation in line with the FAIT mandate target of 2%, risk-on assets could continue to face aggressive monetary policy. Conversely, if a rising terminal rate target effectively pressures inflation, conditions could support a gradual recovery in risk-on assets.

Notable News

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Bitcoin

- SEC rejects ARK and 21Shares' spot Bitcoin ETF for a second time.
- Bitcoin mining difficulty reaches a new ATH as previously unprofitable miners return online.
- More than 10,000 NFTs were minted using inscriptions (Ordinals), doubling Bitcoin network fees. A former Bitcoin core developer created the protocol which allows users to receive individual satoshis, which may include unique inscribed data such as videos and images. [1]
- Digital asset manager Osprey Funds files suit against Grayscale Investments alleging violations of the Unfair Trade Practices Act - Osprey is seeking an award for damages and injunctive relief for the misrepresentation in the likelihood of GBTC's successful conversion to a spot-based ETF.

Ethereum

- Kraken settled with the SEC, resulting in a $30mm fine, and agreed to discontinue the unregistered offering of its staking as a service (SaaS) program. [2]
- Core developers deployed the first mainnet shadow fork for the Shanghai upgrade. The simulation introduced staked ETH withdrawals, with the next trial will take place on the Sepolia testnet on Feb 28th.
- Lido, the largest liquid staking derivative protocol, introduced its V2 proposal features a new modular architecture to increase validator diversity while improving node operator participation.
- Index CoOp launches its diversified staked ETH index product dsETH comprised of the following liquid staking derivatives: Rocketpool's rETH, Stakewise's sETH2, and Lido's wstETH.
- Total ETH locked in ETH2 staking derivatives surpasses 7 million (43.05% of total staked supply).

Layer 1's

- Solana Mobile releases details of its native dApp store - unlike 30% fees on Google and Apple's application stores, the Solana store will be free to use exclusively on the Saga mobile phone. [3]
- Nearly 60% of Cardano (ADA) network nodes went offline for a short period of time. The development company behind Cardano, Input Output Global (IOG), said a bug affected relay and block-producing nodes.
- L1 blockchain Aptos appreciates by more than 400% YTD as market cap reaches $2.7 billion - the top trading NFT marketplace on Aptos is Topaz.
- Cosmos-based (ATOM) L1 blockchain Canto TVL grew from $66 million to $147.6 million in January (~$100 million currently locked in AMM Canto Dex).

Other Headlines

- The lending arm of Genesis, Genesis Global Capital, filed for U.S. bankruptcy protection. Filings estimate more than 100,000 creditors and debts, including inter-company liabilities, exceed $5.1 billion. [4]
- European Parliament's Economic Affairs Committee votes to impose strict restrictions on banks seeking custody of digital assets - requiring a 1:1 backing in euros for each unit of digital currency.
- Bond credit rating company Moodys announced it is developing a scoring system for crypto stablecoins - the system will analyze up to 20 stablecoins plus reserves. [5]
- White House released its official "Roadmap to Mitigate Cryptocurrencies' Risk." The statement calls on the U.S. Congress to take action regarding outlining a regulatory framework that prioritizes investor protection.
- SEC announces plans to sue Paxos Trust Company for offering the unregistered security BUSD.

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1 BitMEX Research, Ordinals Data https://blog.bitmex.com/ordinals-data/

2 U.S. SEC Press Release, Kraken to Discontinue Unregistered Offer and Sale of Crypto Asset Staking-As-A-Service Program and Pay $30 Million to Settle SEC Charges https://www.sec.gov/news/press-release/2023-25

3 The Defiant, Solana Unveils App Store For Saga Phone https://thedefiant.io/solana-saga-app-store

4 Reuters, Crypto lending unit of Genesis files for U.S. bankruptcy https://www.reuters.com/technology/crypto-lending-unit-genesis-files-us-bankruptcy-2023-01-20/

5 Bloomberg, Moody's Is Working on Scoring System for Crypto Stablecoins https://www.bloomberg.com/news/articles/2023-01-26/credit-rater-moody-preps-crypto-stablecoins-scoring-system?sref=3REHEaVl#xj4y7vzkg

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