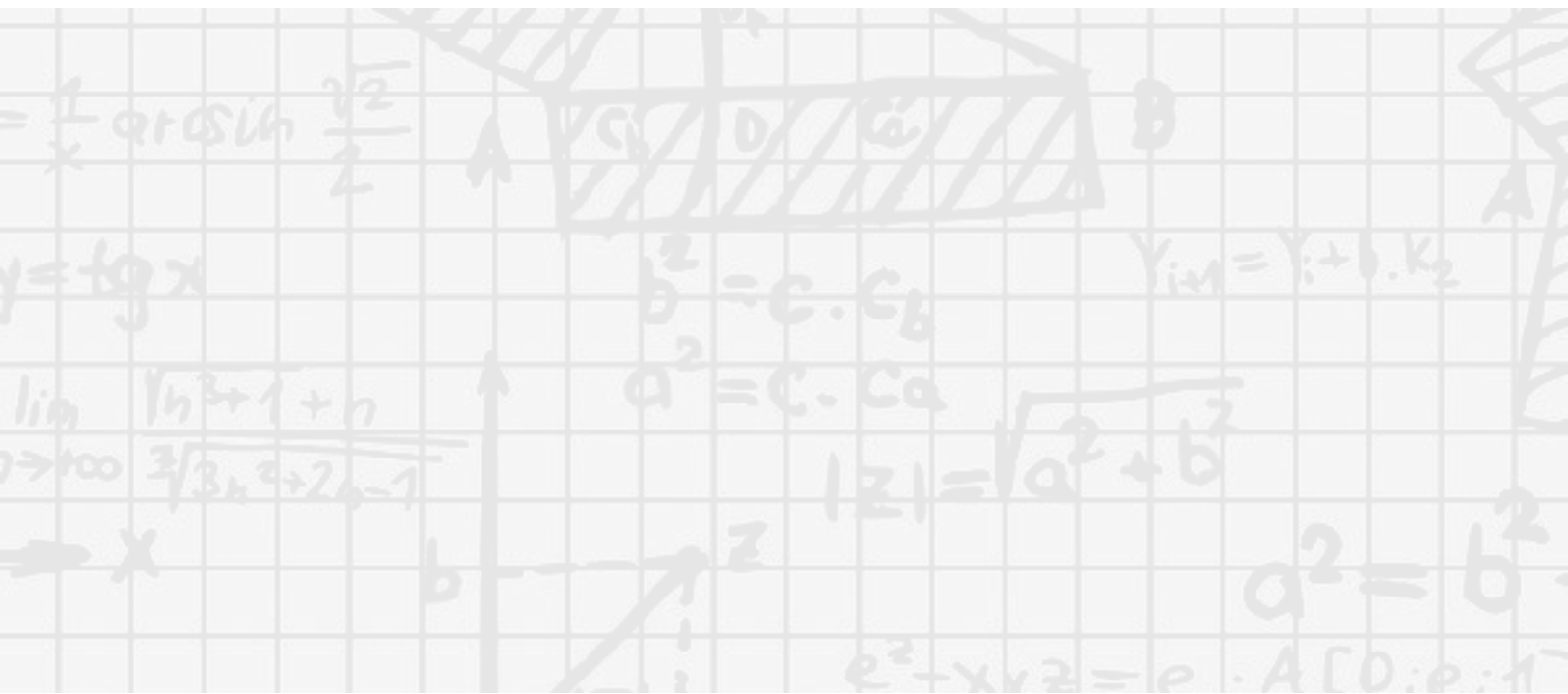# Digital Asset Markets Report

April 2023

Summary

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 indices are currently +9.6% and +1.8% YTD, respectively, while the NASDAQ is up 11.8%.
- US Q1 GDP rose just 1.1%, below economists' expectations of 2%, as the market shows signs of slowing growth.
- ISM Manufacturing Purchasing Manager Index declined to 46.3 in March, the lowest reading since May 2020.
- Core (M/M) PCE data of 0.3% aligned with market expectations, while the (Y/Y) core PCE of 4.6% came in slightly above 4.5% expectations.
- The Federal Reserve raised interest rates by 25 bps at the May FOMC, bringing the Fed Funds rate in line with their terminal target rate of 5.00 - 5.25% - CME suggests a 92.6% likelihood of a pause and 7.4% odds of another 25 bps hike in June.
- The US10Y and US3M yield spread reached new levels of inversion extremes in April and currently sits at -1.87.

Macro Performance Page 1

- Digital assets' total market cap hit a new yearly high of $1.18tn before closing March at $1.14tn.
- GLD (Gold ETF) modestly trended higher in April as the asset remained positive at +8.0% YTD.
- Oil nullified its price gains following OPEC's unexpected announcement of production cuts, currently $74.42/barrel.
- The GSG commodity index extended its trend of underperformance against traditional indices, -3.3% YTD.

On-Chain Analysis Page 2

- **UTXO Realized Price Distribution (URDP) :** Shows the distribution volume and price of all BTC in circulation - there is currently a low distribution volume of < 0.52% between ($24.7K - $26.1K) which could be a target for a potential higher low.

- **Bitcoin Annual Realized Price :** This tool calculates the market-wide realized BTC price on an annual basis using exchange outflow volume - we find a confluence between the 2020/2022 realized price at $26.3K - $26.4K and the URDP low volume range.

Technical Levels Page 3

- **Bitcoin**: 200w SMA ($25.9K) remains a key level of high timeframe support structure for price action after recently testing the 50d SMA ($27.5K).

- **Ethereum**: ETH found initial support at its 50d MA but resumed its trend of underperformance vs. BTC with the ETH/BTC ratio -10% YTD.

Momentum & Sentiment Pages 4-5

- **S2F momentum model**: The model rebalanced to a risk-off allocation.

- **Alt-season indicator**: The indicator continues to shows strength in BTC vs. all other digital assets.

- **Delta risk**: The indicator is signaling caution for both ETH and BTC.

Market Radar Pages 6-7

- **Central Bank Global Liquidity :** As global central banks enact tighter monetary policies to battle pervasive national inflation levels, monitoring the trends in liquidity data can help signal favorable conditions for risk-on assets, including crypto.

- **Economic Cycle Indices :** When used in conjunction, the Leading Economic Index (LEI) and the Aggregate and Cyclical Coincident Indices help alert investors of a likely economic downturn by providing a three signal framework.

- **Economic Cycle Vs Market Cycle :** The juxtaposition of these two cycles shows that in the midst of market and economic turmoil, great investment opportunities lie ahead for those who are positioned correctly.

Notable News Page 8

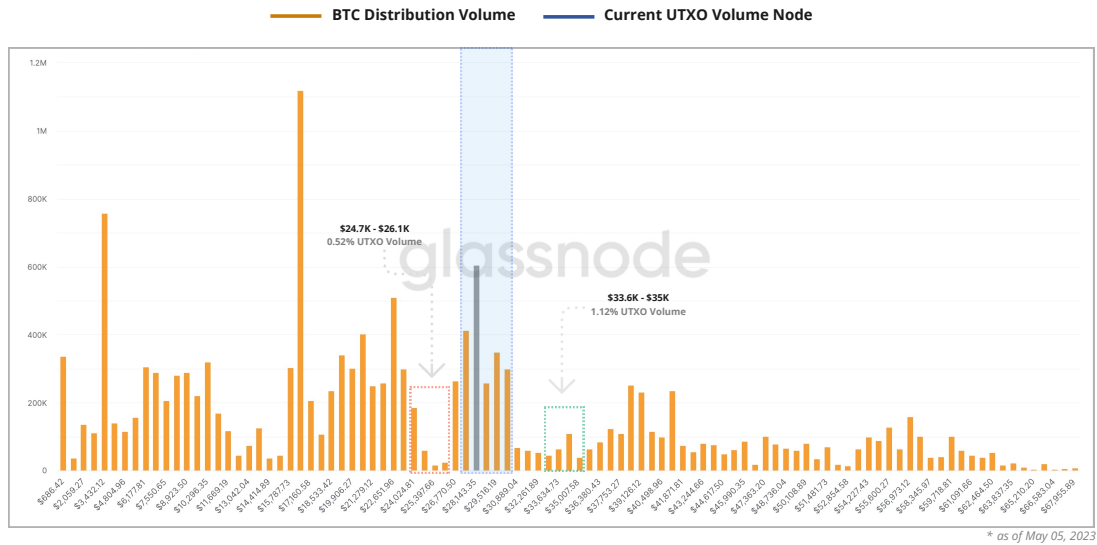- Bitcoin, Ethereum, Layer One, and Other Headlines.

Macro Performance

2023 Asset Returns

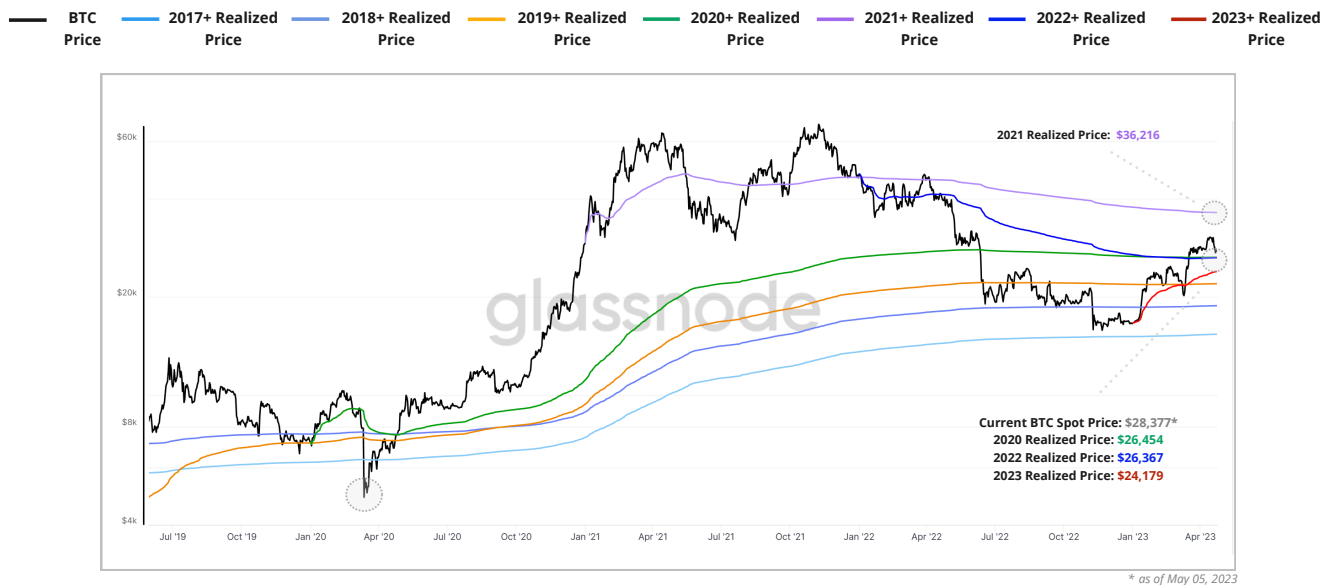| Asset	MtD*	QtD	YtD	Volatility (annualized)*	Sharpe (annualized)*	Correlation (to Bitcoin)*
Bitcoin	3.0%	76.4%	76.4%	0.54	2.10	1.00
Ethereum	3.3%	56.7%	56.7%	0.55	1.53	0.95
Altcoin Index	-1.9%	37.3%	37.3%	0.55	0.19	0.55
TopCap	2.3%	65.1%	65.1%	0.52	1.34	0.95
CryptoCap	1.9%	51.4%	51.4%	0.54	1.34	0.98
SPY	1.2%	9.6%	9.6%	0.16	1.59	0.36
QQQ	-1.9%	11.8%	11.8%	0.20	1.27	0.38
GLD	0.1%	8.0%	8.0%	0.15	1.75	0.89
UCO	-7.3%	-5.0%	-5.0%	0.60	0.16	-0.08
FBND	0.1%	3.4%	3.4%	0.07	0.48	0.63
VNQ	1.1%	1.9%	1.9%	0.22	0.32	-0.60
GSG	-3.6%	-3.3%	-3.3%	0.21	-0.48	-0.13

Sources: AlphaVantage, TradingView
Assets: SPY = S&P500, QQQ = NASDAQ, GLD = Gold, UCO = Crude Oil, FBND = Total Bond Market, VNQ = Vanguard Real Estate Index Fund ETF, GSG = S&P Commodity Indexed-Trust, S2FALTINDEX = Altcoin Index, TopCap = Marketcap of top 20 coins excluding stablecoins and wrapped tokens, CryptoCap = total crypto sector
*as of April 30, 2023 - last 90 days

UTXO Realized Price Distribution (URPD)

— BTC Distribution Volume — Current UTXO Volume Node

$24.7K - $26.1K
0.52% UTXO Volume

$33.6K - $35K
1.12% UTXO Volume

glassnode

* as of May 05, 2023

- In our October report, we highlighted the UTXO Realized Price Distribution (URPD) which shows **BTC Distribution Volume** (**orange**) and the price of BTC created at that level. October revealed a low-volume range near $28K which was filled recently.

- Currently, we identify a low volume range to the downside ($24.7K - $26.1K) with a distribution volume < 0.52%. If price action trades lower, Bitcoin could have an opportunity to establishing a higher distribution volume of on-chain support.

BTC Annual Realized Price (2017-2023)

— BTC Price — 2017+ Realized Price — 2018+ Realized Price — 2019+ Realized Price — 2020+ Realized Price — 2021+ Realized Price — 2022+ Realized Price — 2023+ Realized Price

2021 Realized Price: $36,216

Current BTC Spot Price: $28,377*
2020 Realized Price: $26,454
2022 Realized Price: $26,367
2023 Realized Price: $24,179

glassnode

* as of May 05, 2023

- The **BTC Annual Realized Price** tool is used to estimate a **market wide cost basis established on an annual basis**. It uses a cumulative sum formula that divides the average BTC price for a specific year by its corresponding exchange outflow volume.

- The URDP low-volume range ($24K - $26.7K) from chart #1 overlaps with **2020**- **$26,454** and **2022 Realized Price** - **$26,367**. Should this range fail, the next potential levels of support are at the **2023**- **$24,179** and possibly the **2019 Realized Price** - **$21,961**.

Technical Levels

- **Bitcoin is sitting just above the 50d MA while remaining well above the 200d MA.**

- Bitcoin has rallied strongly YTD and price corrections are inevitable.

- Significant resistance levels remain from $28k - $31k. If price breaks below the 50d MA, price could visit the $24k - $26k levels as discussed on the previous frame.

Bitcoin / U.S. Dollar, 1D, BITSTAMP

UPPER RANGE

CAUTION

* as of May 05, 2023

- **Ethereum has dipped below the 50d MA as the 200d MA has begun slowly rising.**

- ETH has underperformed BTC since the new year and remains heavily correlated with BTC and overall liquidity conditions.

- Ethereum's Shanghai upgrade occured on April 12th meaning that validators can withdraw and sell their staking rewards.

Ethereum / U.S. Dollar, 1D, KRAKEN

UPPER RANGE

CAUTION

* as of May 05, 2023

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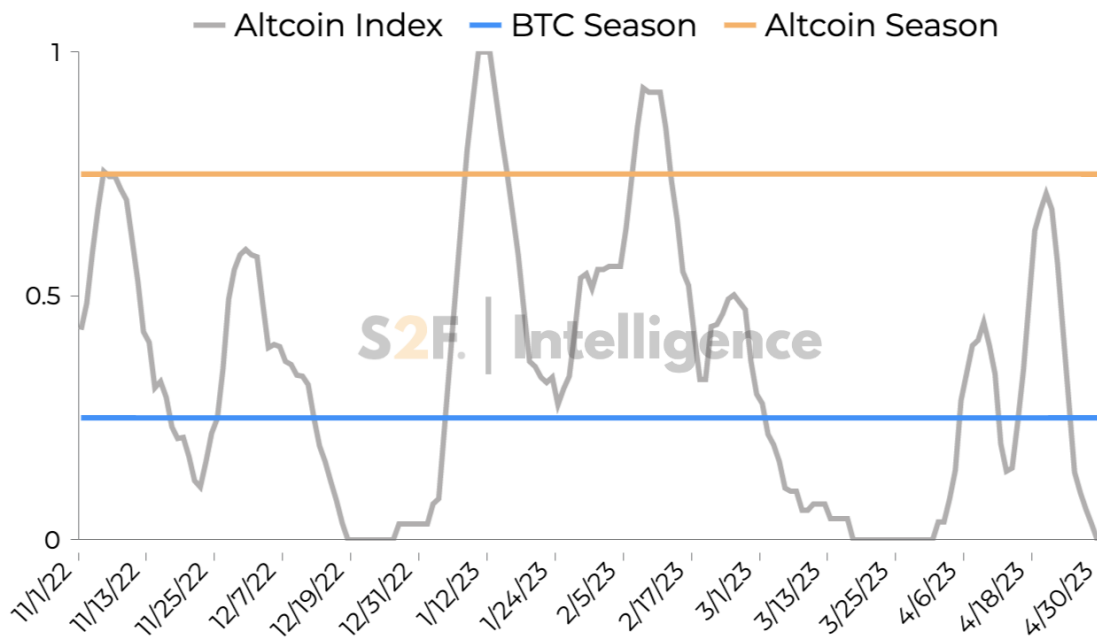
The S2F Alt-Season Indicator is a proprietary model that measures the capital flows between Bitcoin and a basket of major Altcoins. This indicator is especially helpful in **identifying where strength resides** in the cycle and can **potentially indicate what may happen next**. When the Index line (**gray**)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

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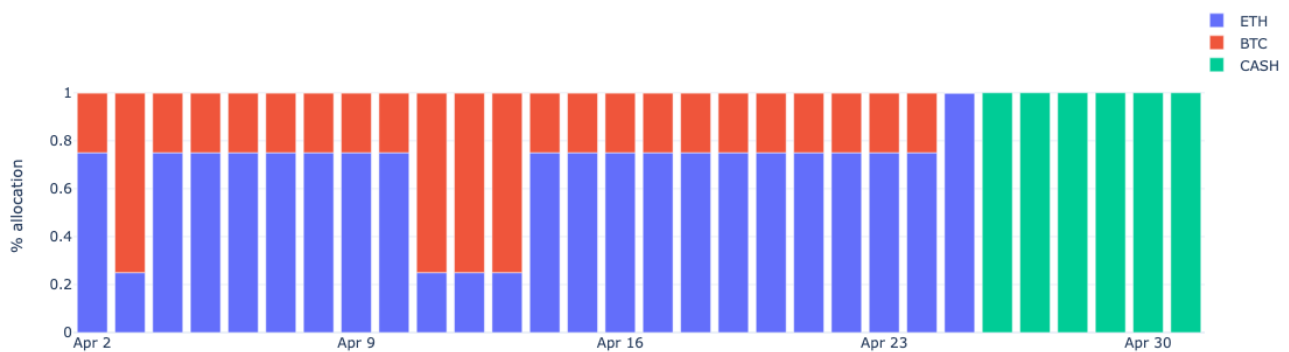
The S2F Momentum Model is a proprietary model for portfolio optimization. The **entry and exit signals rely on a risk indicator,** while the **ETH and BTC weights are based on price momentum**. The chart above shows the suggested daily allocation over the last 30 days.

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 Q3 2021.

Bitcoin

— Bitcoin Price   — BTC Risk On   — BTC Risk Off

Ethereum

— Ethereum Price   — ETH Risk On   — ETH Risk Off
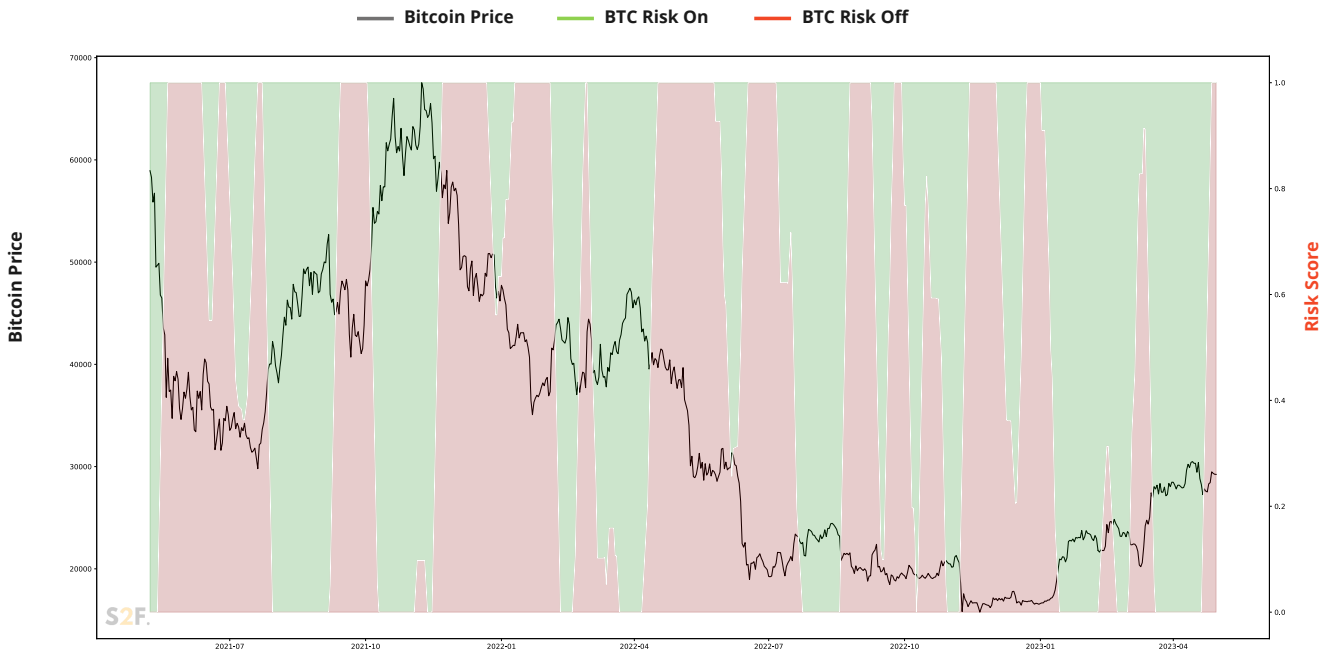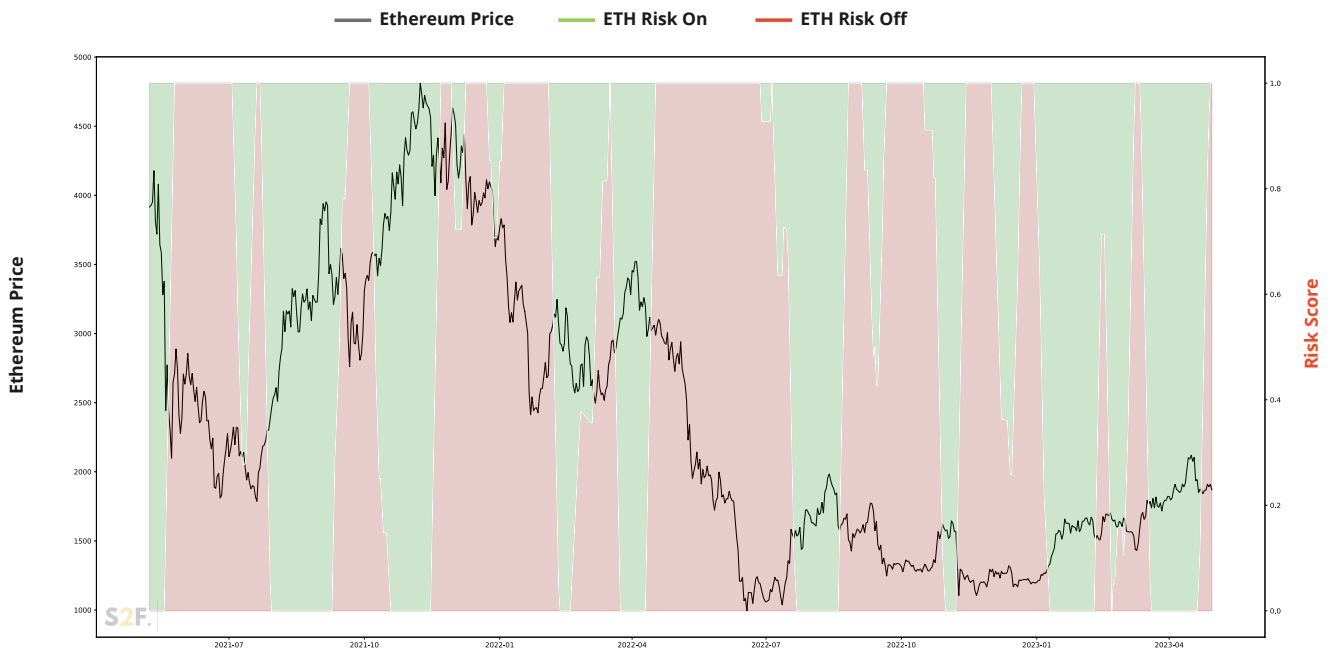
Global Liquidity - World Central Banks

As the digital asset sector matures, there seems to be an emerging correlation between price and world central bank liquidity. Positive price appreciation for Q1 aligns with the trend in global liquidity expansion - measured by central bank balance sheets.

BTC/USD vs. Global Central Bank Liquidity

Legend: Global Liquidity — FED (Net Liquidity) — ECB (Net Liquidity) — PBOC (Net Liquidity) — BOJ (Net Liquidity) — BoE (Net Liquidity) — Other Central Banks

as of April 30, 2023
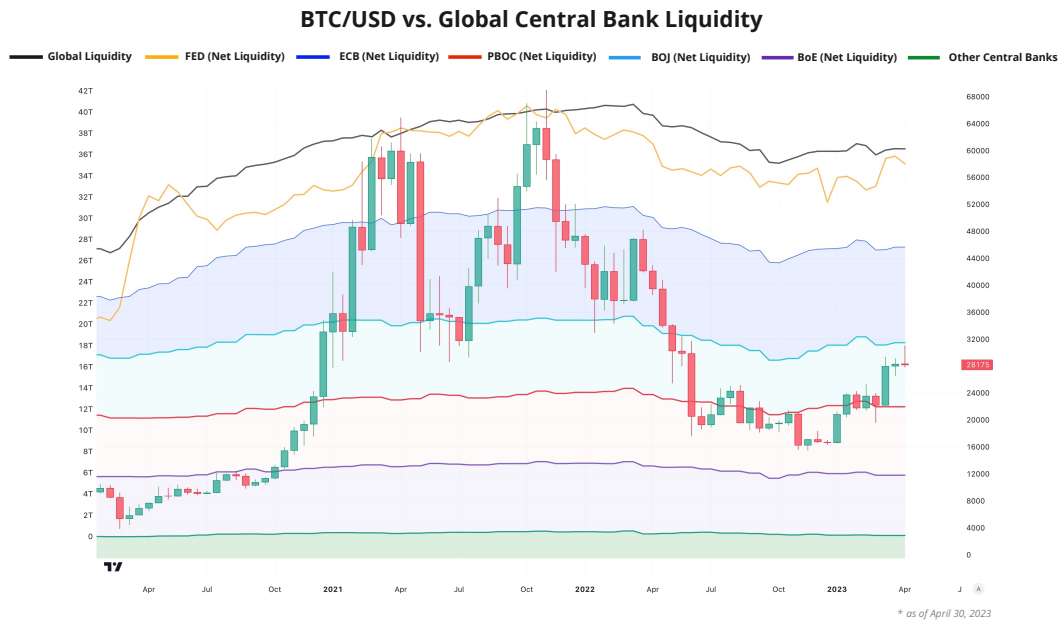
- The **Global Liquidity** (**black line**) indicator (shown above) adds together the balance sheets of the world's major central banks - FED, ECB, BoE, PBoC, BOJ, India, and Switzerland (denominated in $USD).

- We observed a slight divergence between the recent downtrend in **Fed Net Liquidity** (orange) and **Global Liquidity** in Q1. When applied to the BTC/USD chart, it shows how periods of global liquidity expansion and contraction influence bull and bear market cycles.

- As global central banks enact tighter monetary policies to battle inflation, monitoring the trends in liquidity data can offer clarity into general market sentiment. However, these conditions may be subject to change should economic circumstances worsen.

Market Cycle Indices - LEI, Aggregate, and Cyclical

March's FED Minutes report contained the word "recession" and appeared to forewarn readers of a potential downturn in the economy. In response, we we explore three historically leading indicators below - the **Leading Economic Index (LEI)** and the **Aggregate and Cyclical Coincident Indices.** When used in conjunction, these indicators alert investors of a likely recession by providing a three signal framework.

- The **LEI economic index** is published by the US Conference Board on a monthly basis and is comprised of leading, coincident, and lagging indexes designed to signal peaks and troughs in the business cycle for major economies.

- The **Aggregate Coincident Index** consists of industrial production, employment data, personal income, and consumption data, while the **Cyclical Coincident Index** specifically tracks the construction and manufacturing sectors.

Each of the three indicators relies on annual growth rates - when the indices fall below this threshold, it identifies market conditions that have historically preceded an economic downturn. And of the three signals, the second occurred last year in December. The third and final signal confirms the conditions of a recession. (see chart on next page).

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1 Trading View, Global Liquidity - Indicator by codi0 https://www.tradingview.com/script/dDBzItPk-Global-Liquidity/

Recession Warning Framework - 3 Signals

The LEI index assumes that over the long run, the **economy grows at a rate of 2% annually**, so when LEI falls below 2%, it becomes the first signal of caution - outlining conditions where these indices fall below "trend" historically provided advanced warnings of a recession.[1]

Chart: EPB Research • Source: Conference Board, Federal Reserve, BEA, BLS
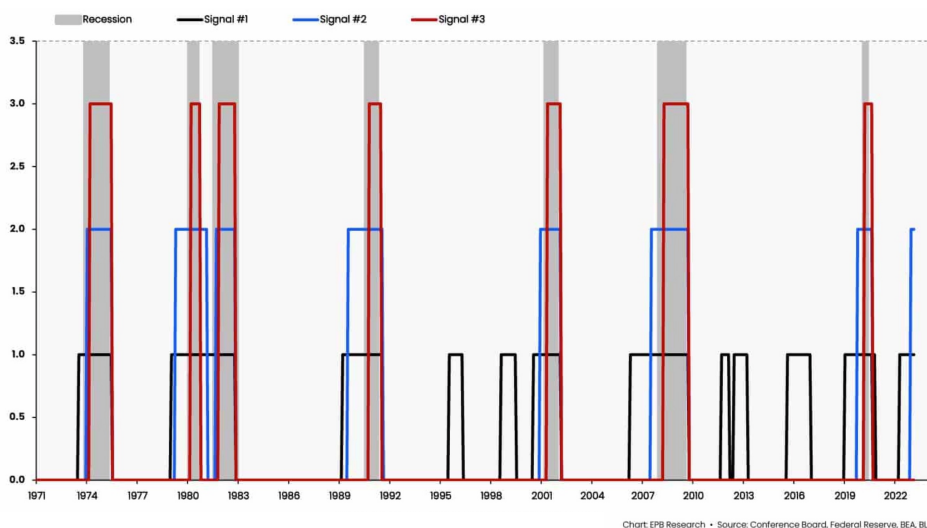
- **Warning Signal #1**: **LEI < 2% and Aggregate and Cyclical < 2%** - Since 1970, the manufacturing and construction industries produced the earliest signals of a recession. Signal #1 (**black**) was triggered an average of 13 months before a recession - **warning signal #1 occurred last May (2022)**.

- **Warning Signal #2**: **LEI < -1% and Aggregate and Cyclical remain < 2%** - Signal #2 (**blue**) has a 100% track record of spotting recessions and on average occurs 6 months before the beginning of a recession. - **warning signal #2 occurred in December (2022)**.

- **Warning Signal #3**: **LEI, Aggregate and Cyclical < 0 (Negative Territory)** - Signal #3 (**red**) confirms a recession and shows that significant issues have arisen within the economy. On average the third signal fires 6 months after the second.
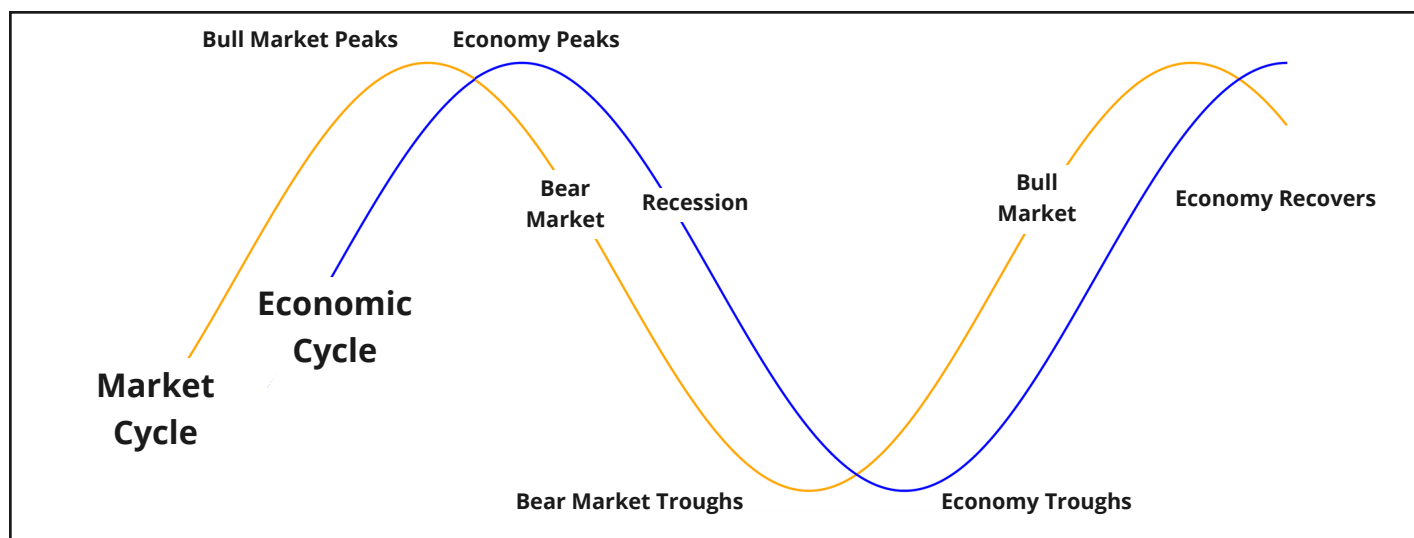
While the market and economic cycles **fluctuate between periods of expansion and contraction**, the market cycle begins to recover as the economy falls into a recession. Historically, these conditions have produced great investment opportunities for those positioned correctly.

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1 EPB Research, Three Sequential Signals of Recession https://epbresearch.com/three-sequential-signals-of-recession/

Bitcoin

- The crypto infrastructure firm, Lightspark launched its new platform aimed at forming and opening API integrations for enterprise-grade businesses with the BTC Lightning Network.
- Intel announced they would discontinue their first generation BTC Blockscale 1000 Series ASICs - the company has yet to suggest there will be any follow-up generations.[1]
- Following the recent difficulty adjustment, the Bitcoin network recorded its fourth new ATH in 2023.
- SB 1751 bill passed in the Texas Senate and now moves to the House. The proposed legislation aims to remove tax abatements for specific properties and require miners with more than 10 megawatts (MW) of computing power to register as large flexible load operators with the Texas grid operator, ERCOT.

Ethereum

- Ethereum staking service project Rocket Pool ($RPL) successfully completed its Atlas protocol update. The improvement lowers the staking cap from 16 ETH to 8 ETH, allowing users to stake using "mini pools."[2]
- a16z announced the development of a new L2 rollup client, Magi, written in the Rust programming language and built using the standardized Optimism development stack.
- After recently launching on mainnet, the ZkSync New Era L2 network surpasses $100 million in TVL.
- Stage 1 of the EigenLayer Testnet launches and also released their first public security audit - EigenLayer is a new primitive in cryptoeconomic security built on top of Ethereum that introduces restaking.

Layer 1's

- TradFi firms, including WisdomTree and T. Rowe Price, join the Avalanche ($AVAX) network's subnet "Spruce" - the news coincides with daily active addresses reaching a six-month high of nearly 80,000 in April.[3]
- Binance US announced it would be delisting the Tron ($TRX) blockchain from its exchange due to regulatory uncertainty and concerns.
- Solana blockchain releases their state compression technology which optimizes data storage and reduces network costs - users can mint ~1 million NFTs for an estimated $110.

Other Headlines

- Coinbase filed suit against the SEC and requested the regulator to be forced to share its answers regarding US regulatory framework for the crypto industry.[4]
- At a subcommittee meeting for Digital Assets, Financial Technology and Inclusion titled 'Understanding Stablecoins' Role in Payments and the Need for Legislation,' Congresswoman Maxine Waters (D-CA) stated in her opening statement, "I think we're starting from scratch on stablecoins."
- Coinbase and Gemini announce plans to expand operations offshore - Coinbase's focus is on Brazil, Singapore, and China, while Gemini aims to grow its presence across Asia-Pacific (APAC). Both companies plan to launch crypto derivatives products outside the US due to an unaccommodating regulatory environment.
- The EU Markets in Crypto Assets (MiCA) passes the final parliamentary vote with 517 votes in favor and 38 against, with 18 abstentions - the comprehensive crypto framework will bring new rules for the industry and signals a unified approach to crypto asset regulation across all 27 member states.[5]

1 Reuters, Intel Ends its Bitcoin Mining Chip Series https://www.reuters.com/technology/intel-ends-its-bitcoin-mining-chip-series-2023-04-18/

2 Blockworks, Rocket Pool Upgrade Lowers Ethereum Staking Cap to 8 ETH https://blockworks.co/news/rocket-pool-atlas-ethereum-staking

3 CoinDesk, WisdomTree, T. Rowe Price Among TradFi Firms to Test Avalanche's Blockchain Subnet https://www.coindesk.com/business/2023/04/14/avalanche-surges-to-6-month-high-in-daily-active-addresses/

4 CNBC, Coinbase sues SEC after months of silence from federal regulator https://www.cnbc.com/2023/04/24/coinbase-sues-sec-after-months-of-silence-from-federal-regulator.html

5 Bloomberg, First EU-Wide Crypto Regulations Clear Final Parliament Vote https://www.bloomberg.com/news/articles/2023-04-20/eu-s-mica-crypto-regulations-clear-final-parliament-vote#xj4y7vzkg

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