

Digital Asset Markets Report

May 2023



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 +10.1% and +1.8% YTD, respectively, while the NASDAQ is up 15.3%.
- US Q1 GDP was revised to the upside from 1.1% to 1.3%, but still below economists' expectations of 2%, as the market shows signs of potentially slowing growth.
- April CPI (M/M) 0.4% data came in above market expectations of 0.3% in addition to the April (Y/Y) core PCE 4.7%, which was also slightly higher than the market estimate.
- Following the recent rise in Unemployment to 3.7% and reaching the Fed Funds Target Rate of 5.00 - 5.25%, CME markets now forecast a 77.0% likelihood of a pause and 23.0% odds of another 25 bps hike at the June FOMC.

Macro Performance

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- Digital assets' total market cap could not eclipse March's yearly high, closing the month at \$1.10tn.
- GLD (Gold ETF) continues its positive yearly performance, +6.6% YTD.
- Despite the aggressive production cuts in oil production from OPEC, oil's price remains below \$80 at \$72.78/barrel.
- The GSG commodity index continues to underperform in 2023, extending further into negative territory -9.3% YTD.

On-Chain Analysis

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- **Value Days Destroyed Multiple (VDD)** : VDD measures near-term coin spending to the yearly average using the coin days destroyed metric. The VDD shows medium conditions, which may signal transitional periods in market trends.
- **ETH Network (Post-Upgrades)** : Post-Shapella upgrade, total ETH staked increased from 18.1 million ETH to more than 22.5 million in deposits - a 24.3% increase, while an additional 90,000+ validators await activation (current wait time is 40+ days).

Technical Levels

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- **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

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- **S2F momentum model**: The model rebalanced to a risk-off allocation (as of end of May).
- **Alt-season indicator**: The indicator shows a neutral positioning of BTC vs. all other digital assets (as of end of May).
- **Delta risk**: The indicator is signaling caution for both ETH and BTC (as of end of May).

Market Radar

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- **US Liquidity** : The TGA boosted issuance of short-term T-bills, which the treasury proceeded to spend to service government operations. YTD, this dynamic produced a tailwind for markets by expanding US liquidity.
- **Debt Ceiling Impact** : Resumption in the issuance of longer-term debt by the TGA could serve as a headwind for markets.
- **Net Liquidity (RRP)** : The RRP overnight lending facility currently contains ~\$2.2T, and with the Fed Funds Rate falling below the RRP rewards rate, these deposits could buffer implied liquidity pressures.
- **US10Y / US3M Yield Inversion** : Private investor demand for longer-term yields may push the spread back into positive territory, but its impact on market downside may be softened by the RRP deposits and Treasury buybacks.

Notable News

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

2023 Asset Returns

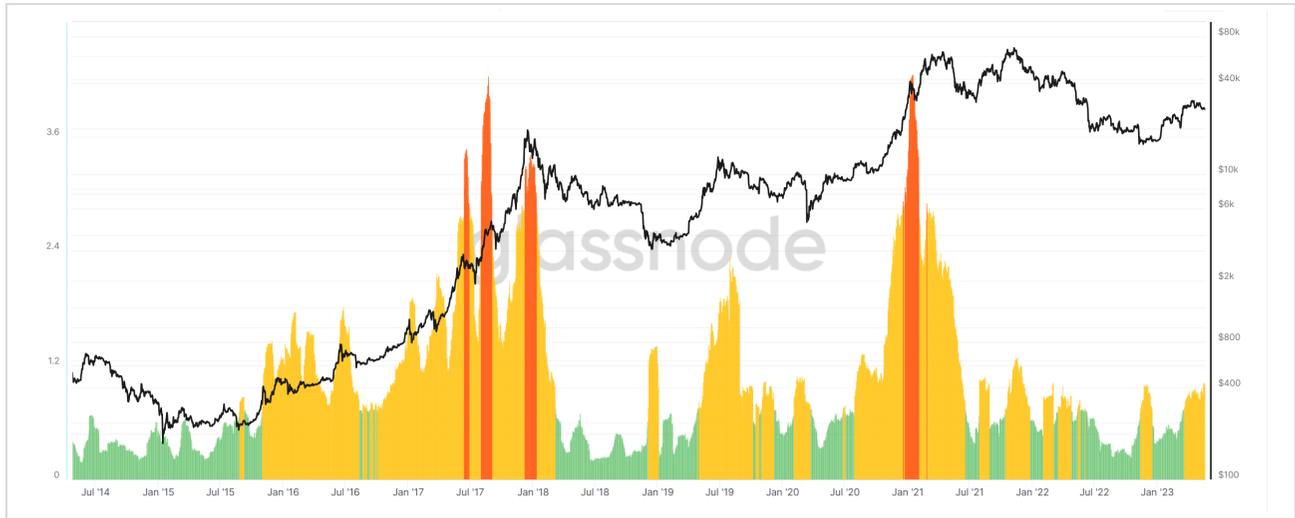


Asset	MtD*	QtD	YtD	Volatility (annualized)*	Sharpe (annualized)*	Correlation (to Bitcoin)**
Bitcoin	-3.1%	-4.4%	63.8%	0.50	1.72	1.00
Ethereum	2.4%	2.9%	56.1%	0.55	1.53	0.93
Altcoin Index	-1.4%	-4.9%	33.1%	0.47	0.38	0.79
TopCap	-3.7%	-1.4%	57.1%	0.47	1.53	0.93
CryptoCap	-1.4%	-4.2%	42.4%	0.50	1.15	0.97
SPY	0.6%	1.7%	10.1%	0.15	0.79	0.54
QQQ	3.2%	1.2%	15.3%	0.18	0.79	0.51
GLD	-0.9%	-1.2%	6.6%	0.15	0.16	0.88
UCO	-17.3%	-25.3%	-23.5%	0.63	-1.43	0.05
FBND	-0.1%	-1.0%	2.3%	0.06	-0.63	0.79
VNQ	-3.2%	-2.9%	-2.2%	0.20	-1.27	-0.15
GSG	-5.5%	-9.6%	-9.3%	0.20	-2.06	0.06

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 May 31, 2023 - last 90 days

BTC Value Days Destroyed Multiple (VDD)

— Bitcoin Price — High VDD — Medium VDD — Low VDD



- The Value Days Destroyed Multiple measures **near-term coin spending** to the **yearly average** using coin days destroyed. During prolonged periods when older coins are dormant, it can signal accumulation resulting in a low VDD (**green**).
- Overheated market conditions occur when the spending of older aged coins overpowers buy-side demand resulting in **high VDD (red)** conditions. Conversely, the current VDD is **medium VDD (orange)**, which can signal transitional periods in price trends.

ETH Network (Post Merge + Withdrawals)

— Ethereum Price — ETH Exchange Balance — Active Validators — Net ETH Supply Issuance — Network Upgrades



- Since April's unlock, the total ETH staked to the network increased from 18.1 million ETH (14.9% total supply) to more than 22.5 million deposits (18.7% total supply). An additional 90,000+ validators are also awaiting activation (wait time 40+ days).
- Post-merge (last September) to the present has resulted in the **ETH Exchange Balance (orange)** declining from 20.6% of the total supply to currently less than 14.9% and a Net ETH Supply Issuance (**light blue**) of (-516,400 ETH).

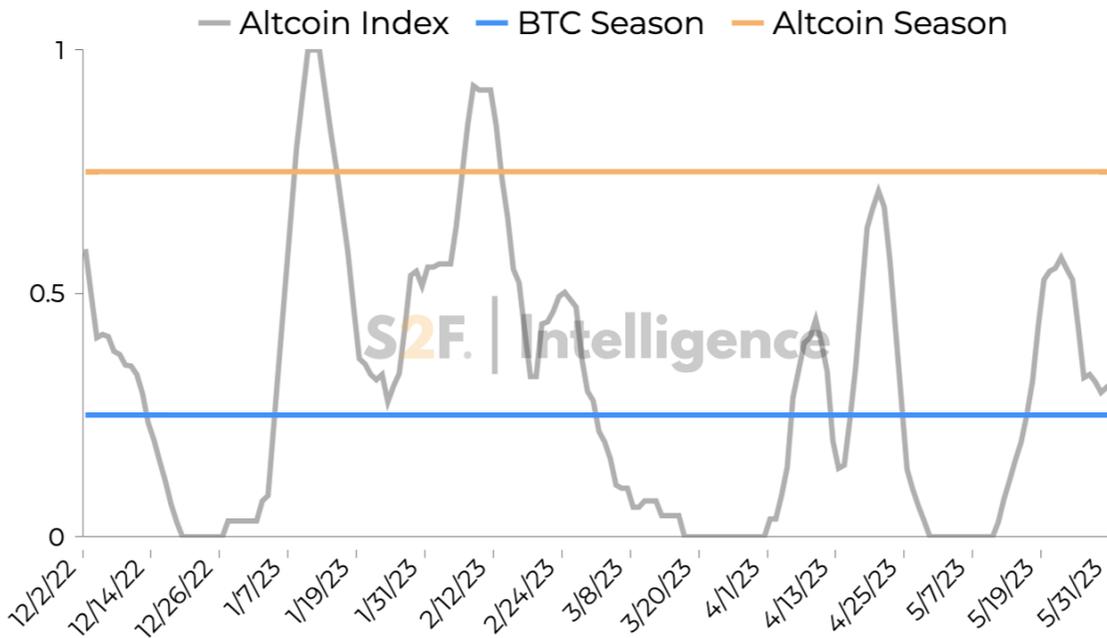
- **Bitcoin found resistance at the 50d MA while remaining well above the 200d MA.**
- Bitcoin has enjoyed strong performance YTD and price corrections are inevitable.
- Resistance levels remain around the 50d MA, and price could visit the \$24k - \$26k.



- **Ethereum has dipped below the 50d MA as price consolidates around the \$1.8k range.**
- The upper resistance level of \$2k has only been tested once this year and remains a long-term target.
- No major sell-off has happened since Ethereum's Shanghai upgrade occurred on April 12th.

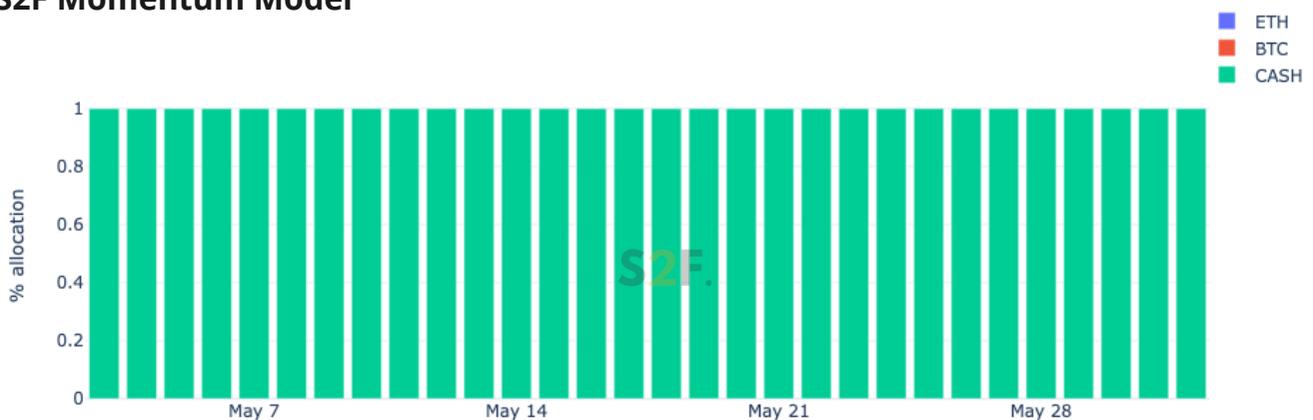


S2F Alt-Season Indicator



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.

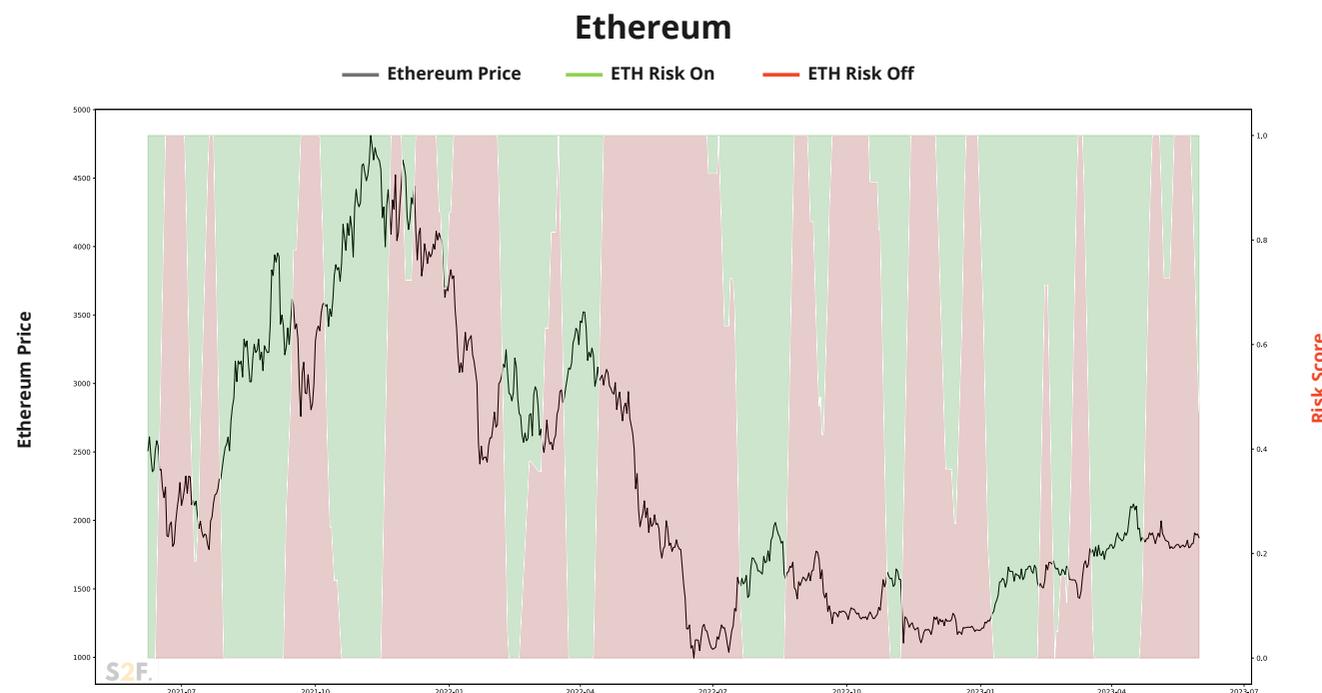
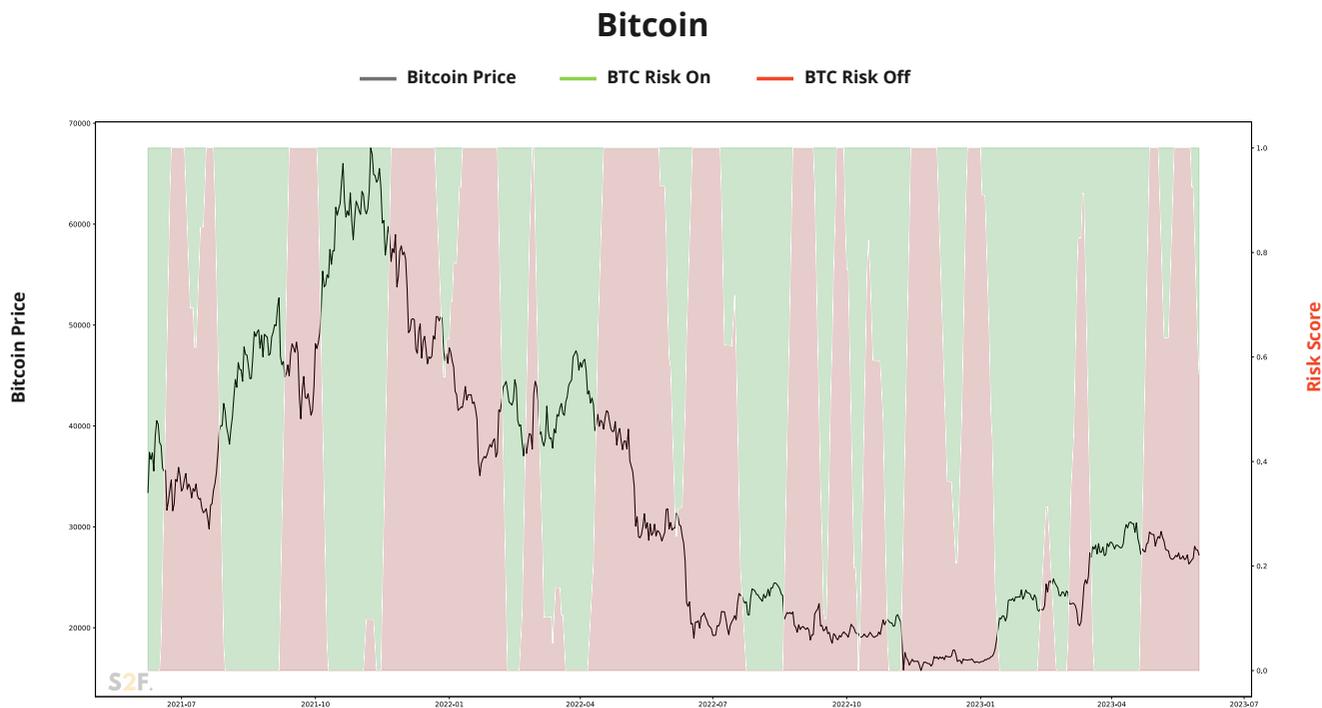
S2F Momentum Model



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.

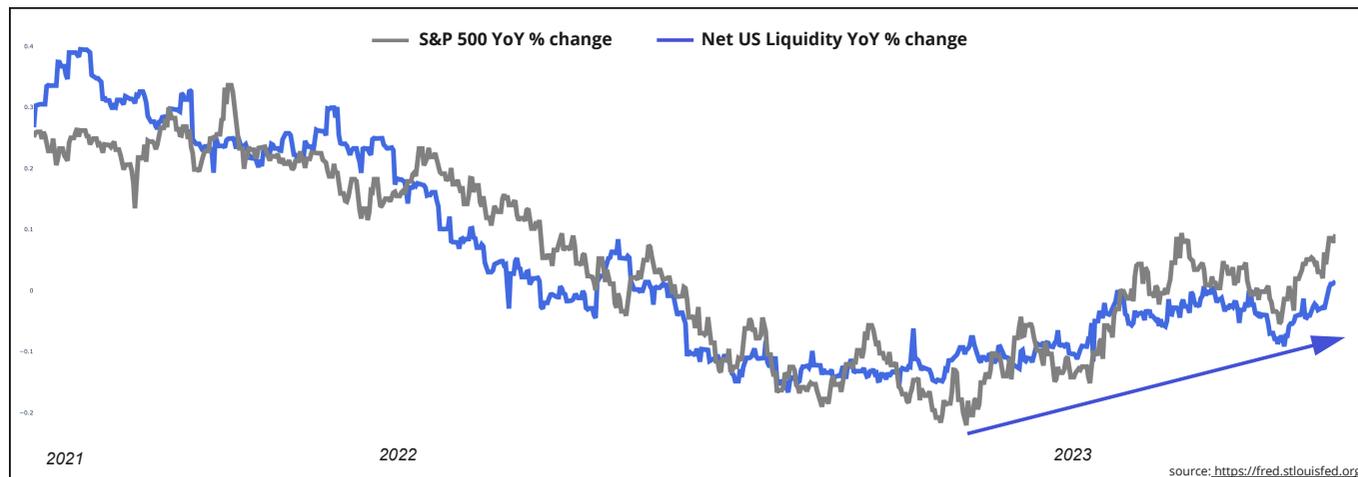
Delta Risk Score

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.



US Liquidity

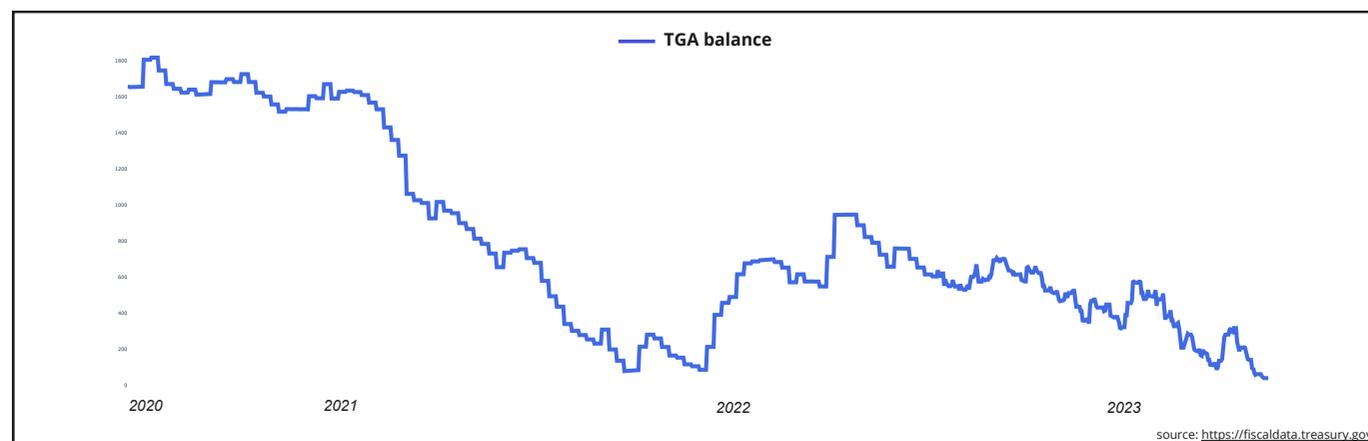
In addition to federal tax revenues, the issuance of sovereign debt securities finances US government expenditures. These include treasury bills, notes, and bonds. Treasury bills are the shortest-term, notes are medium-term, and bonds are longer-term debt instruments.



- In Q2 2022, as interest rates rose to combat rising inflation, asset valuations were inversely correlated to the issuance of debt securities by the Treasury General Account. These events constrain liquidity as debt securities are sold off the Fed balance sheet.
- However, on January 19, 2023, the US reached its debt ceiling, restricting the Treasury General Account (TGA) from issuing additional debt. Therefore, until a resolution, the TGA must use its existing balance to pay down interest payments on existing maturing debt.
- In anticipation of the deadline, the TGA boosted its issuance of short-term T-bills, which the treasury proceeded to spend to service government operations. YTD, this dynamic produced a tailwind for markets by expanding US liquidity (blue arrow).

Debt Ceiling Resolution Impact

Following the recent debt ceiling resolution, the Treasury General Account is no longer on the hook for covering government expenditures. As a result, it plans to issue newly minted debt securities (\$173B in 13-week, 26-week, 44-day) at auction on 06/05.

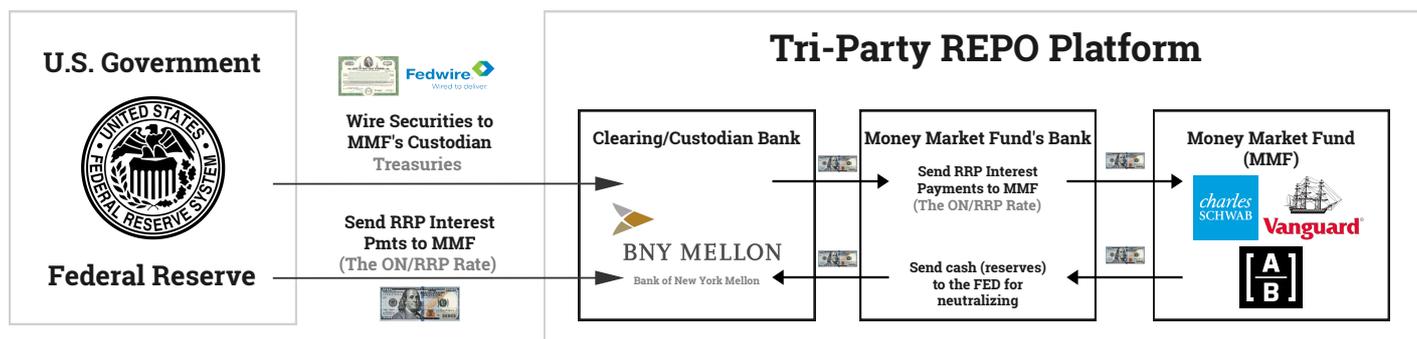


- The (Y/Y) TGA balance declined from \$782B in May 2022 to less than \$50B. While the BTFP, in response to the banking crisis in March, softened QT measures from the Fed, the forced spending from the TGA into the economy has been positive for markets.
- Considering the market's elevated interest rate conditions, the Treasury is incentivized to issue shorter-duration bills. However, a resumption of the issuance of longer-term debt by the TGA may serve as a headwind for risk-on assets.

Net Liquidity Impact (Reverse Repo Mechanism)

Markets have a high correlation with expansion and contraction periods of net US liquidity. A pivotal aspect of maintaining balance within the \$23T US treasury market is the reverse repo market. Repo markets act as a short-term lending operation using US securities as collateral. They facilitate the overnight exchange between lending dollars by providing debt securities between institutions.

MONEY MARKET FUND (MMF) HAS INVESTED IN AN RRP (REVERSE REPO) LOAN WITH THE FED, RECEIVING INTEREST DAILY



- A reverse repo occurs when the Federal Reserve deposits US treasuries to a bank in exchange for an overnight cash loan. The bank receives interest (RRP award payment) the following day and passes it onto a MMF when the Fed repurchases the security.
- When the RRP reward rate (5.05%) > Fed Funds Rate (5.0%) MMFs are incentivized to park excess liquidity in the overnight repo markets. When treasury yields exceed the award rate, liquidity is drawn from the repo markets to capture the yield premium.
- Goldman Sachs estimates that the TGA may resume issuing up to \$700B in treasury bills to refill its coffers post-resolution.¹ However, the Fed Funds Rate (5.08%) recently rose above > RRP reward rate (5.05%), and it's possible that if TGA issues shorter-term treasury debt, the RRP overnight facility, which currently contains ~\$2.2T, could buffer these implied liquidity pressures.

Yield Inversion Update (10Y/3M)

Our January report referenced the historical correlation between economic downturns and the inverse spread of US10Y and US3M treasury yields. With the debt ceiling resolved, conditions for a recovery in the 50-year low (-1.92) of the spread may be possible. Ideally, a pause in hikes from the Fed could also catalyze market demand as the TGA potentially issues new longer-duration notes and bonds.



- On May 3rd, the Treasury announced plans to design and implement a buyback program of US government debt in 2024.² Likely relying on the fluidity between the Fed operation and overnight cash loans in the repo markets, this event boosts market liquidity.
- Private investor demand to lock in longer-term yields in anticipation of future rate cuts may push the spread back into positive territory. However, this initial constraint on market liquidity may be offset by the upcoming 2024 buybacks and a robust RRP capital balance.

¹ Markets Insider, Treasury Could Issue \$700 Billion in T-Bills Within Weeks of Debt Ceiling Deal <https://markets.businessinsider.com/news/bonds/treasury-general-account-tbills-liquidity-debt-limit-ceiling-us-default-2023-5>

² US Department of Treasury, Quarterly Refunding Statement of Assistant Secretary for Financial Markets <https://home.treasury.gov/news/press-releases/jy1460>

Bitcoin

- The Bitcoin network reached a new ATH in daily transactions of 682,280 on May 1, an increase of 255% compared to its previous ATH of 192,000 on December 14, 2017.
- Bitcoin developers discuss repository code change that would potentially prohibit BRC-20 tokens after record-high fees and network congestion led the mempool to exceed ~400,000 t/xs.
- Attendance at this year's 2023 Bitcoin conference was reportedly down by more than half, with 15,000 attendees recorded versus 35,000 last year.
- According to Congressman Warren Davidson (OH), the current debt-ceiling proposal, including the Digital Asset Mining Energy (DAME), has reportedly been removed. ¹

Ethereum

- Ethereum developers discuss the upcoming Cancun-Deneb (Dencun) protocol upgrade, which will include EIP 4844 - a network milestone that lays the groundwork for optimizing L2 smart contract efficiency.
- VISA publishes an overview on staking and deploys its first Paymaster Smart Contract featuring account abstraction on the Ethereum Goerli testnet. ²
- The network experienced two consecutive failures to reach finality when multiple clients' software used to secure the blockchain malfunctioned. Patches for the software have been released to solve bugs.
- The market's largest liquid staking derivative, Lido, discloses 440,000 ETH available to accommodate requests after the protocol recently enabled withdrawals for depositors.

Layer 1's

- On-chain activity surges on Dogecoin and Litecoin networks due to ordinals hype from investors.
- Chinese tech giant Alibaba builds a metaverse launchpad called Cloudverse on the AVAX blockchain - the partnership aims to help businesses customize, launch and maintain their own metaverse spaces on the blockchain.
- The Solana Foundation has officially integrated its ChatGPT plug-in, developed by Solana Labs, with the blockchain network. ³
- \$DASH, a privacy-focused blockchain network, experienced a multi-hour halt (18hrs+) following its Dash Core v19 hard fork, which required node operators to upgrade their software.

Other Headlines

- Binance announced its decision to exit Canada citing regulatory roadblocks surrounding investor limits and compliance requirements regarding stablecoins. ⁴
- The Hong Kong Securities and Futures Commission (SFC) announced it is accepting applications from exchanges to allow retail trading of cryptocurrency.
- China released a Web3 innovation whitepaper to strengthen policy support and promote acceleration in technological breakthroughs for digital assets. ⁵
- Two of the world's largest market-making firms, Jane Street and Jump Crypto, announced the decision to scale back liquidity in the sector due to concerns over the outlook of regulatory uncertainty.

¹ Decrypt, US Debt Ceiling Deal Blocks 30% Bitcoin Mining Tax: Congressman <https://decrypt.co/142711/us-debt-ceiling-deal-blocks-30-bitcoin-mining-tax-congressman>

² The Block, Visa taps Ethereum's Goerli testnet to experiment with account abstraction <https://www.theblock.co/post/231411/visa-taps-ethereums-goerli-testnet-to-experiment-with-account-abstraction>

³ TechCrunch, Solana launches ChatGPT plug-in to help users interact with its network <https://techcrunch.com/2023/05/23/solana-chatgpt-blockchain/>

⁴ Bloomberg, Binance to Exit Canada After Country Imposes New Crypto Rules <https://www.bloomberg.com/news/articles/2023-05-12/binance-to-exit-canada-as-regulators-push-for-new-crypto-rules#xj4y7vzkg>

⁵ CoinTelegraph, Beijing releases white paper for Web3 innovation and development <https://cointelegraph.com/news/beijing-releases-white-paper-for-web3-innovation-and-development>

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