



As of June 30, 2022

# THE BITCOIN MONTHLY

## CONTAGION & CAPITULATION

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Please read risk disclosure carefully.



→ Aim for a cross-sector understanding of technology and combine top-down and bottom-up research.

→ Aim to understand the regulatory, market, sector, and company risks. (See Risk and Disclosure Page)



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Section 1

# Bitcoin Market Summary

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# Bitcoin Market Summary | June 2022

## ARK'S KEY TAKEAWAYS

1. Bitcoin closed the month of June down nearly 40%, declining from \$31,780 to \$19,980.
2. Contagion in the crypto markets continued as Celsius and Three Arrows Capital came undone.
3. Market contagion sends bitcoin into capitulation.
4. Despite record-high realized losses, unrealized losses could allow further downside.
5. Uncertain macro conditions are weighing on bitcoin's recovery and outlook.

### Market Sentiment

ARK's View: Bearish

-  Following Terra's collapse, leverage is unwinding across the crypto ecosystem, catalyzed by a "bank run" on Celsius and the insolvency of high-profile fund Three Arrows Capital (3AC).
-  While further contagion in the coming weeks is possible, the size of the fallout associated with recent events is diminishing, which is promising.



### On-Chain Activity

ARK's View: Bullish

-  For the first time since March 2020, bitcoin is trading below its cost basis, a level that historically has marked global capitulation.
-  Miners appear to be under pressure as profitability has compressed significantly.
-  Although realized losses are at record highs, unrealized losses could cause further downside.

### Macro

ARK's View: Bearish

-  Credit default swaps and the Treasury yield curve (10y-2y) are signaling a recession and, yet, the Fed continues to tighten to curb inflation.
-  The behavior of commodities like gold and copper suggests that inflation will not be as long-lasting as the Fed fears.



## News Of The Month

- [Ethereum's Ropsten Proof-of-Stake "Test Merge" Goes Live](#)
- [Terraform Labs Ordered To Cooperate With SEC Probe Regarding Mirror Protocol](#)
- [Celsius Halts Withdrawals](#)
- [Coinbase, BlockFi, Gemini, And Others Announce Layoffs](#)
- [Counterparties Liquidate Three Arrows Capital](#)
- [Finblox Limits Withdrawals](#)
- [Babel Limits Withdrawals](#)
- [FTX Extends \\$250 Million Credit Line To BlockFi](#)
- [Voyager Reveals Three Arrows Capital Exposure, Limits Withdrawals, And Announces \\$500 Million Credit Line From Alameda](#)
- [Coinflex Halts Withdrawals](#)
- [Hackers Steal \\$100 Million From Harmony Cross-Chain Bridge](#)
- [BVI Court Orders Three Arrows Liquidation](#)
- [Voyager Issues Notice Of Default To Three Arrows Capital For Unsecured \\$660 Million Loan](#)

Information as of June 28, 2022.

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## Section 2

# Following Terra's Collapse, Leverage Is Unwinding Across The Crypto Ecosystem

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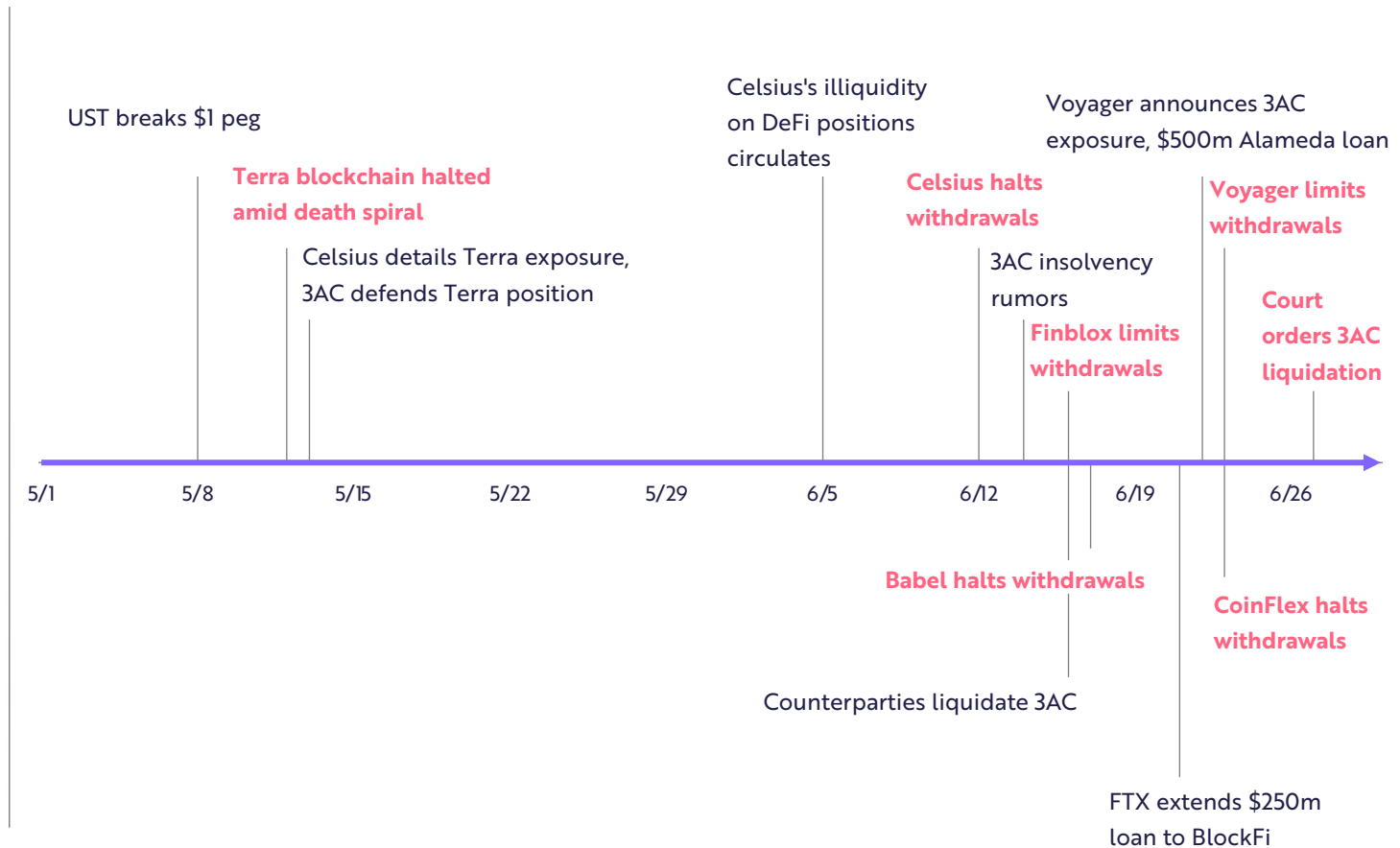




## Contagion Is Spreading Across The Crypto Ecosystem

Beginning with the Terra collapse in early May, contagion spread to major crypto lenders including Blockfi, Celsius, Babel, Voyager, CoinFlex, contributing to the insolvency of the once highly-respected hedge fund, Three Arrows Capital (3AC). Since Terra's collapse, total crypto market capitalization has dropped ~\$640 billion.

In our view, we could see more signs of contagion in the coming weeks. Promisingly, however, recent fallout (Babel, Voyager, CoinFlex, Finblox) appears lower in magnitude compared to Terra, Celsius, and 3AC.







## Crypto Lending Platform Celsius Freezes Withdrawals In Response To Significant Outflows

Celsius froze withdrawals on June 12<sup>th</sup> in response to significant outflows. Its DeFi debt outstanding is \$631 million but the magnitude of its non-DeFi exposure is unclear.

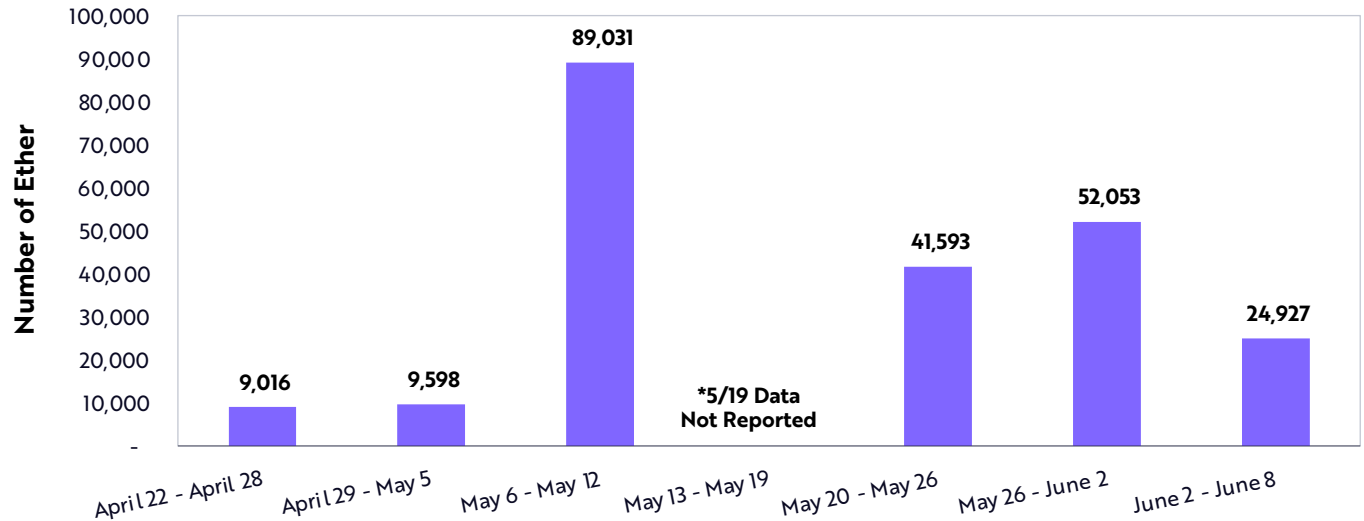
In decentralized protocols, Celsius used customer deposits as collateral, against which it borrowed stablecoins to lend to third parties at higher rates.

As outflows accelerated, Celsius was unable to pay down outstanding DeFi loans to free up the collateral—a problem compounded both by its relatively illiquid position in Lido’s liquid staked ether (stETH) and by its direct deposits into Ethereum’s Proof-of-Stake contract (ETH2).

**Known Celsius Ether Positions as of June 30<sup>th</sup>**

	Liquid (ETH)	Semi-Liquid (stETH)	Illiquid (ETH2)	Total
<b>Ether Deposits</b>	189k	410k	325k	923k
<b>% of Known Deposits</b>	21%	44%	35%	100%

**Celsius Saw Outflows of Over 219k ETH Between April 22<sup>nd</sup> and Halting Withdrawals on June 12<sup>th</sup>**



Source: Celsius Weekly Youtube AMA



## Three Arrows Capital Appears To Be Insolvent

Three Arrows Capital (3AC), a highly regarded crypto hedge fund reportedly managing \$18 billion at its peak, appears to be insolvent after taking on too much leverage.

3AC was heavily exposed to the Terra ecosystem and to an arbitrage play associated with GBTC. Both trades turned against it.

Seemingly, 3AC took on excess leverage to try and recover the losses. Its creditors included major players in the industry like Genesis, BlockFi, Voyager, and FTX. 3AC also managed the treasuries of several portfolio investments, perhaps putting them at risk.

### Known 3AC Counterparties

### Select 3AC Portfolio Investments

Base Layer	Decentralized Finance	Equity	Funds
AVALANCHE bitcoin ethereum KUSAMA MINA NEAR Polkadot. SOLANA Terra	AAVE Ardana Balancer BONFIDA DerivaDEX dHEDGE δY/δX Futureswap GRO KeeperDAO kyber network L I D O MEANFI M STABLE Multichain Neon ORCA Perpetual Protocol Synapse THETANUTS FINANCE Trader Joe TRANCHESS WOO	BlockFi Deribit Fireblocks STARKWARE TPS CAPITAL Gaming And NFT's AXIE INFINITY CRYPTO RAIDERS DROPP IMPERIUM EMPIRES NYAN ULTIVERSE	Coincident Capital Multicoon Capital DACM PLAY HYPERSPHERE

Source: ARK Investment Management LLC, 2022. Portfolio investments sourced from [Three Arrows Capital](#). Counterparties sourced from [The Block](#) (1, 2), [CoinDesk](#), [Fortune](#). Information as of June 30, 2022. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency. Forecasts are inherently limited and cannot be relied upon.



Section 3

# Market Contagion Sets Bitcoin Into Capitulation

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## Despite Shocks To The Crypto Ecosystem, Bitcoin's Fundamentals Appear To Be Stable

	Bitcoin Metrics <sup>1</sup>	Unit	June 2022	1M Change	1Y Change	ARK's View
Network Security	<b><u>Mining Difficulty</u></b>	Exahash/sec <sup>1</sup> (thousands)	127	-1.09%	+48.36%	Neutral
	<b><u>Miner Revenue</u></b> (7-Day Moving Average)	USD (millions)	\$18.6	-32.3%	-8.82%	Bearish
Network Usage	<b><u>Active Owners</u></b> <sup>2</sup> (Active Entities, 7-Day Moving Average)	thousands	241	-7.62%	+9.74%	Neutral
	<b><u>Transaction Volume</u></b> <sup>2</sup> (7-Day Moving Average)	BTC (thousands)	236.7	+32.75%	+1.17%	Bullish
Holder Behavior	<b><u>Long-Term-Holder Supply</u></b> <sup>2</sup> (Coins Held for 155 Days+)	BTC (millions)	13.33	-1.11%	+11.26%	Neutral
	<b><u>Locked Supply</u></b> <sup>2</sup> (Illiquid Supply)	BTC (millions)	14.63	+0.96%	+4.94%	Bullish
	<b><u>Time-Weighted Turnover</u></b> <sup>2</sup> (Coindays Destroyed, 7-Day Median)	Coindays (millions)	11.15	+23.75%	+28.9%	Bearish

[1] For more information on these metrics and their units of account, please read the Appendix: Glossary Of Terms on page 25 of this report.

[2] Data may be subject to change over time since it is entity-adjusted in real time via a machine-learning algorithm.

Source: ARK Investment Management LLC, 2022. Data sourced from [Glassnode](#). Some data may be subject to change over time since they are entity-adjusted in real time. Information as of June 28, 2022. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency. Forecasts are inherently limited and cannot be relied upon.



## Bitcoin Is Valued Below Its Cost Basis For The First Time In Two Years

	Bitcoin Metrics <sup>1</sup>	Unit	June 2022	1M Change	1Y Change	ARK's View
Long-Term Valuation	<b>Market Cost Basis</b> (Realized Price)	USD	\$22,441	-5.42%	+15.52%	Neutral
	<b>Percent Supply in Profit</b>	pp	51.98%	+10.1 pp	-20.46 pp	Bullish
Short-Term Valuation	<b>Short-Term-Holder Cost Basis<sup>2</sup></b> (STH Realized Price)	USD	\$30,827	-3.16%	-33.1%	Neutral
	<b>Realized Market Returns<sup>2</sup></b> (SOPR-1, 7-day moving average)	pp	-8.4%	-2.7 pp	-2.6 pp	Bullish
Market Sentiment	<b>Perpetual Futures Basis</b> (Binance, Estimated, 7-Day Exponential Moving Average)	pp	-0.02%	+0.01 pp	+0.01 pp	Bullish
	<b>Expirational Futures Basis</b> (Quarterly, All Exchanges, Annualized)	pp	0.29%	-3.24 pp	-4.72 pp	Bullish

[1] For more information on these metrics and their units of account, please read our Appendix: Glossary Of Terms on page 25 of this report.

[2] Data may be subject to change over time since it is entity-adjusted in real time via a machine-learning algorithm.

Source: ARK Investment Management LLC, 2022. Data sourced from [Glassnode](#). Some data may be subject to change over time since they are entity-adjusted in real time.

Information as of June 28, 2022. Perpetual futures basis was estimated internally on the basis of data from TradingView, and it is subject to change. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency. Forecasts are inherently limited and cannot be relied upon.



## Market Contagion Pushes Bitcoin Below Its On-Chain Cost Basis

**ARK's View: Bullish**

Down 70% from its all-time high, bitcoin is trading at or below some of its most important levels: its 200-week moving average, the general cost basis of the market (realized price), the cost bases of long-term (LTH) and short-term holders (STH), and its 2017 peak.

Trading below these levels is atypical and suggests extremely oversold conditions. Only four times in history has bitcoin traded below price levels relative to these means.

**Bitcoin Price vs. On-Chain Cost Bases and 200-Week Moving Average**



Source: ARK Investment Management LLC, 2022. Data sourced from [Glassnode](#). Information as of June 28, 2022. Data may be subject to change over time since it is entity-adjusted in real time via a machine-learning algorithm. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency. Forecasts are inherently limited and cannot be relied upon.



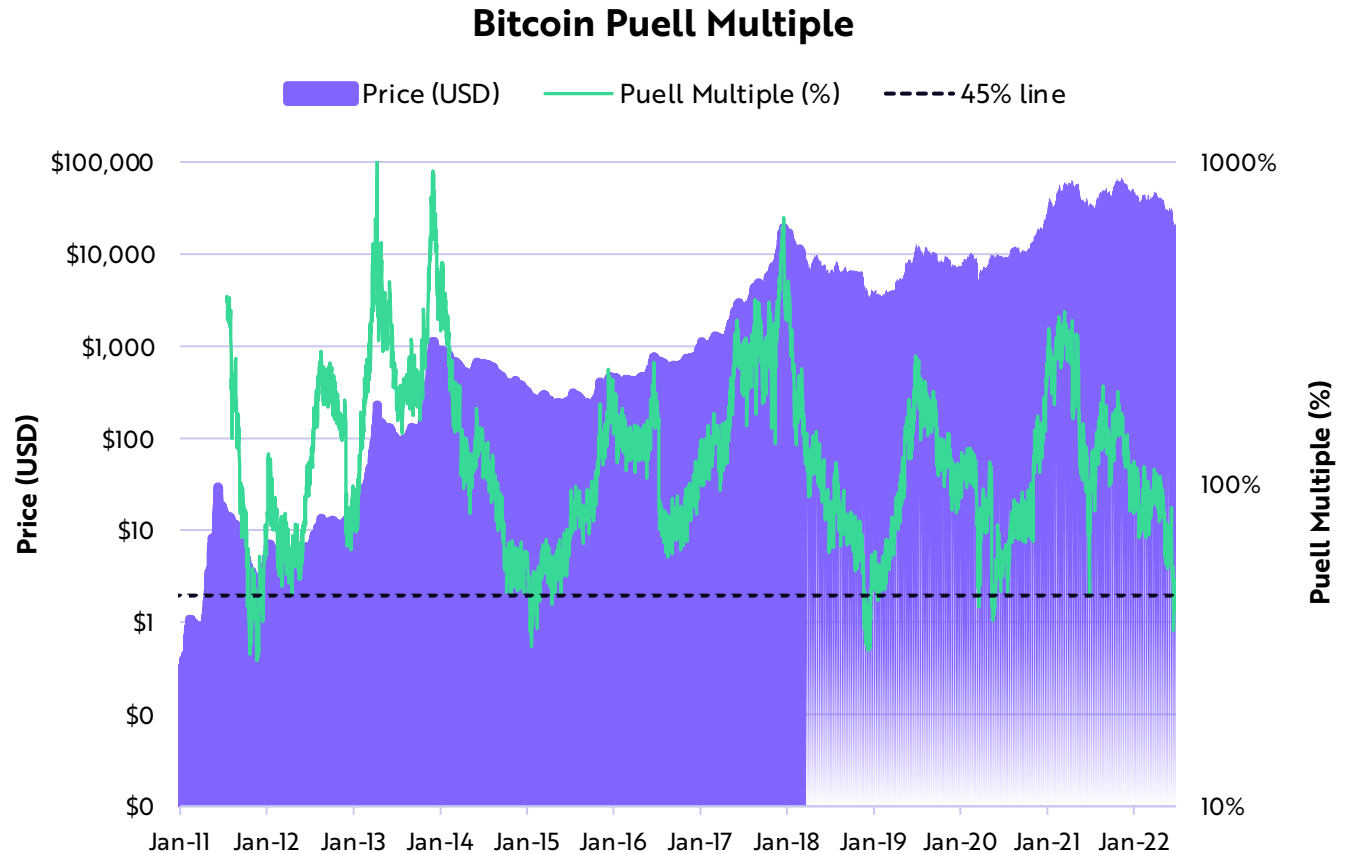


## Bitcoin Miners Are Facing Significant Pressure And Seem To Be Capitulating

### ARK's View: Bullish

The Puell Multiple, a measurement that compares daily miner revenue to its yearly average, assesses the level of earnings compression miners face.

This month, miners generated revenues only 45% of that for the last twelve months, breaching a threshold that usually correlates with market bottoms.





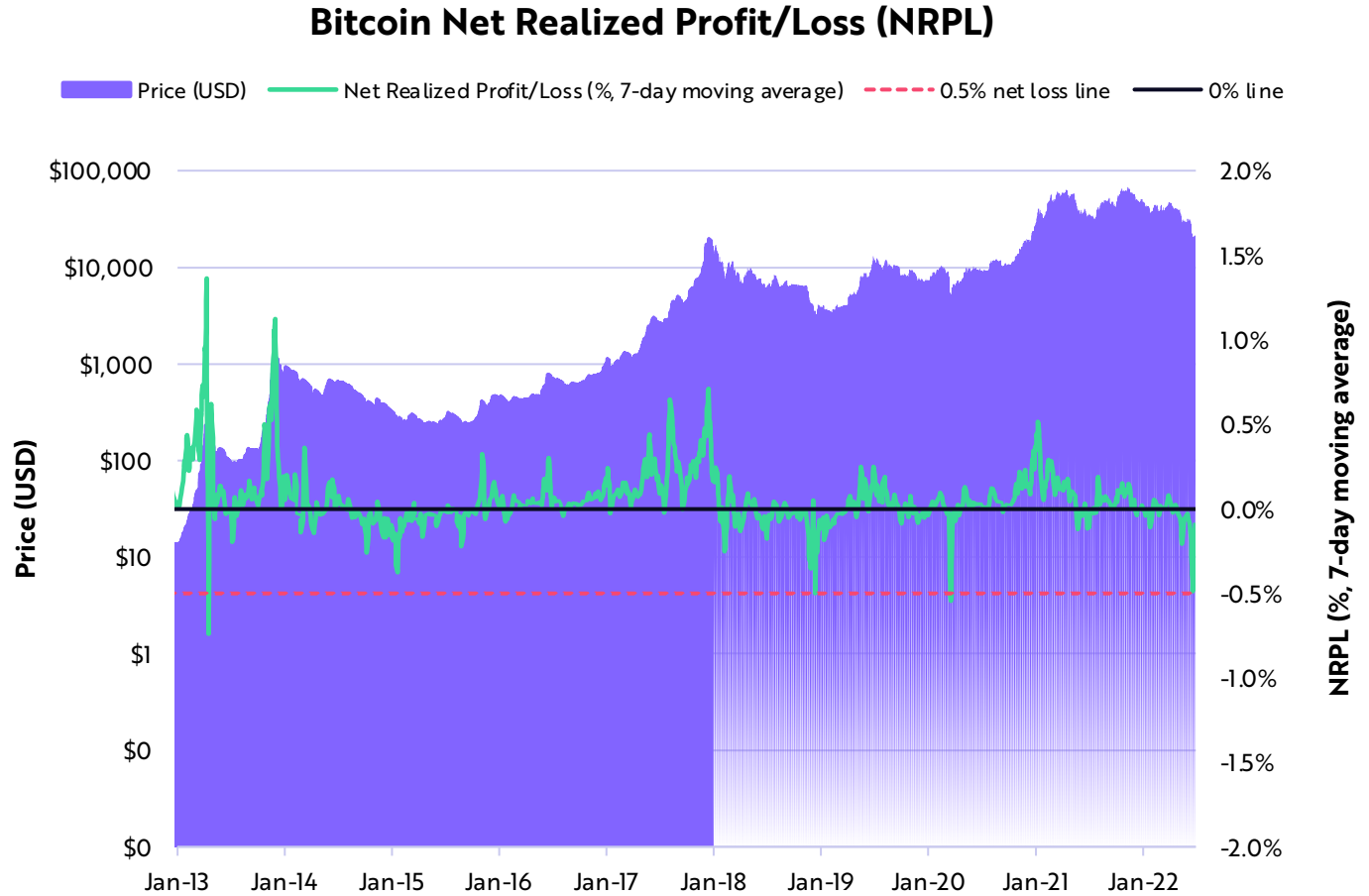


## Realized Net Losses Have Hit Historic Levels

**ARK's View: Bullish**

Net realized losses in bitcoin recently reached a 2-year low, breaching 0.5% for only the fourth time since 2013.

Historically, a percentage below 0.5% has suggested capitulation.



Source: ARK Investment Management LLC, 2022. Data sourced from [Glassnode](#). Information as of June 28, 2022. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency. Forecasts are inherently limited and cannot be relied upon.

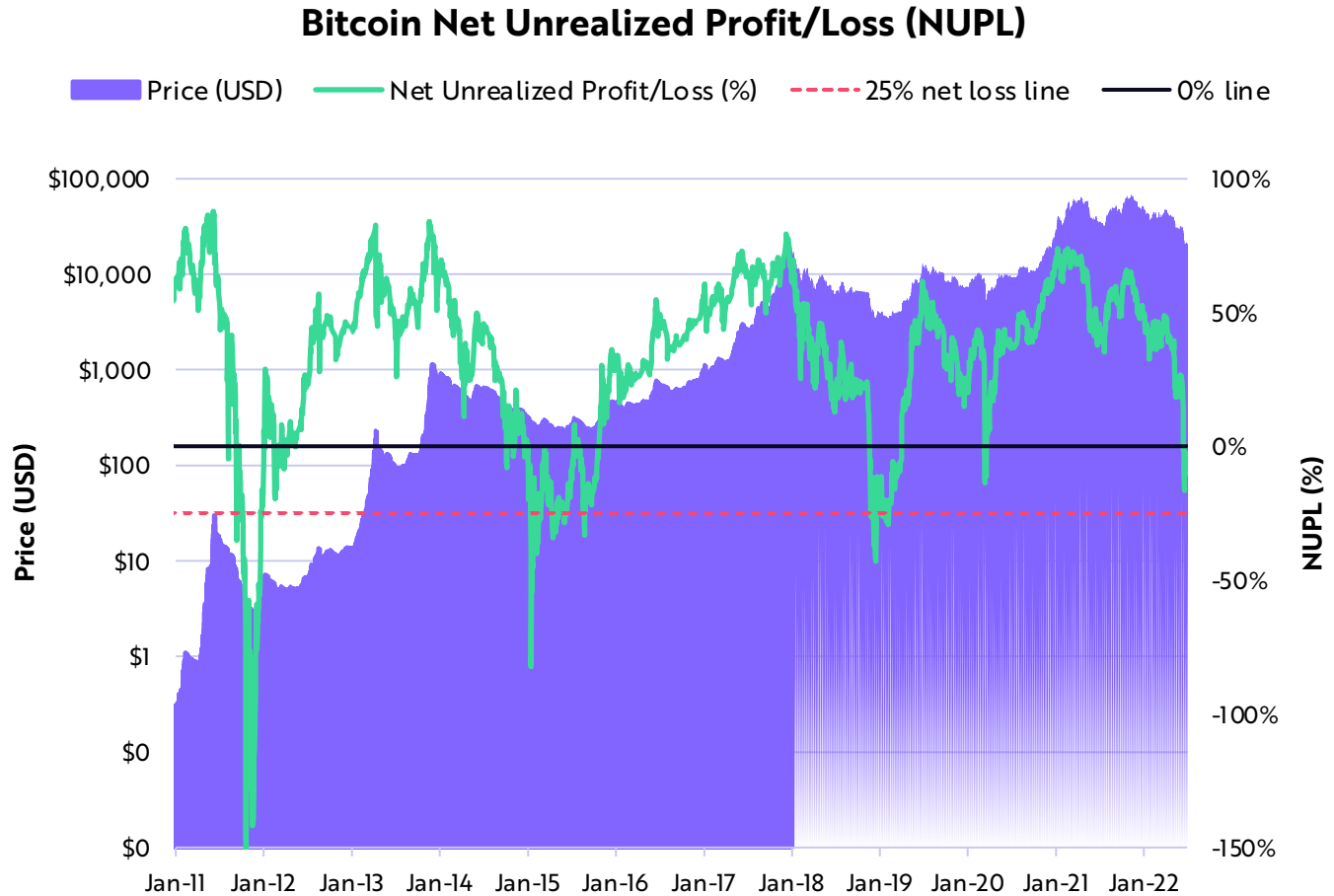


## Unrealized Net Losses Suggest Bitcoin Could Fall Further

**ARK's View: Bearish**

Bitcoin's net unrealized loss has hit a 3-year low, highlighting that its current market value is nearly 17% lower than that of its aggregate cost basis.

Historically, global bottoms have formed when losses hit 25%+.



Source: ARK Investment Management LLC, 2022. Data sourced from [Glassnode](#). Information as of June 28, 2022. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency. Forecasts are inherently limited and cannot be relied upon.



## Section 4

# Macro Conditions Are Weighing On Bitcoin's Outlook

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## Credit Default Swaps Have More Than Doubled Since September

### ARK's View: Bearish

Credit default swaps currently trade at levels close to the 2020 COVID-19 market meltdown.<sup>1</sup>

A rise in credit default swaps signals a heightened risk of recession, as investors take out insurance against default.

If the Fed changes its hawkish rhetoric, credit default swaps should reverse.

### The Markit CDX North America Investment Grade Index (CDX IG CDSI GEN 5Y Corp)



[1] Per Bloomberg: "The Markit CDX North America Investment Grade Index is composed of 125 equally weighted credit default swaps on investment grade entities, distributed among six sub-indices: High Volatility, Consumer, Energy, Financial, Industrial, and Technology, Media & Tele-communications. Markit CDX indices roll every six months in March & September."

Source: ARK Investment Management LLC, 2022. Data sourced from Bloomberg. Information as of June 28, 2022. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency. Forecasts are inherently limited and cannot be relied upon.

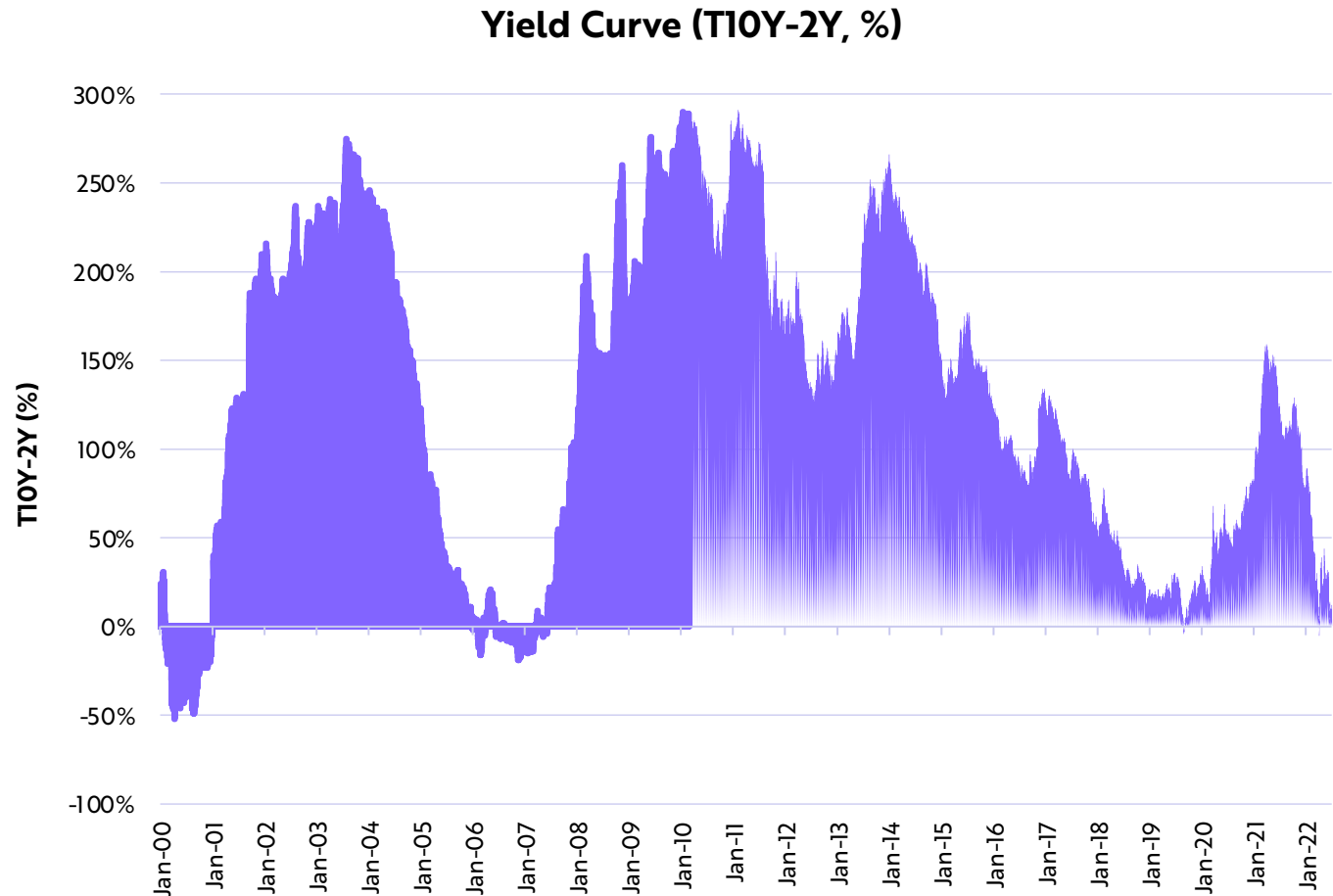


## The Yield Curve Is Flattening, Marking A Loss Of Confidence In The Economy's Growth Outlook

### ARK's View: Bearish

A flattening yield curve suggests a recession and/or lower-than-expected inflation.

When short- and long-term instruments offer near-equivalent yields, investors are not rewarded for taking long-duration risks.



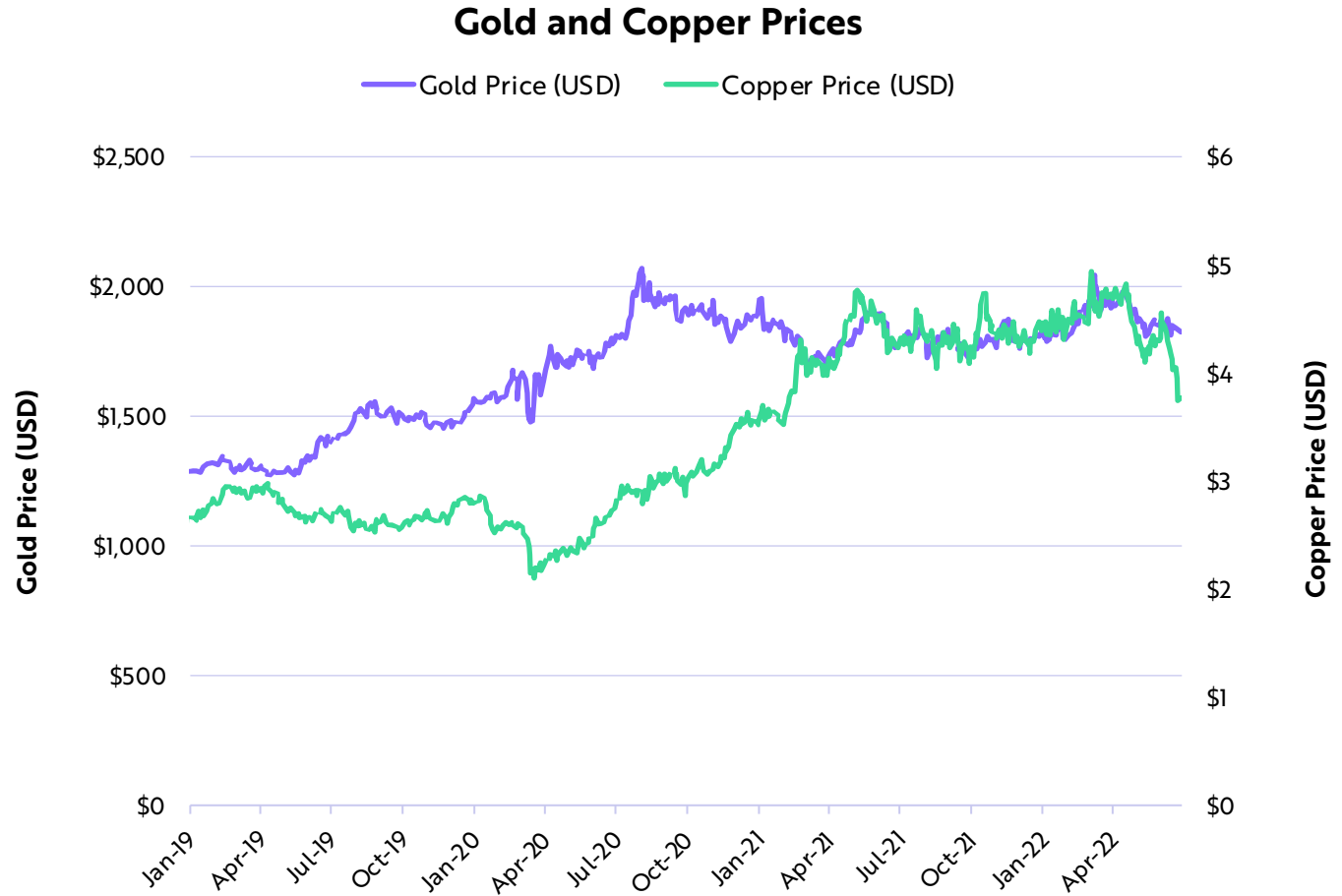


## Gold And Copper Price Action Suggests That Inflation Expectations Are Too High

### ARK's View: Bullish

Gold and copper are not behaving as though inflation is a long-term threat. Copper has broken below a trading range, while gold has been in a trading range for nearly two years and now is at the low end of that range.

Historically, rising gold and copper prices have been leading indicators of sustained inflation.





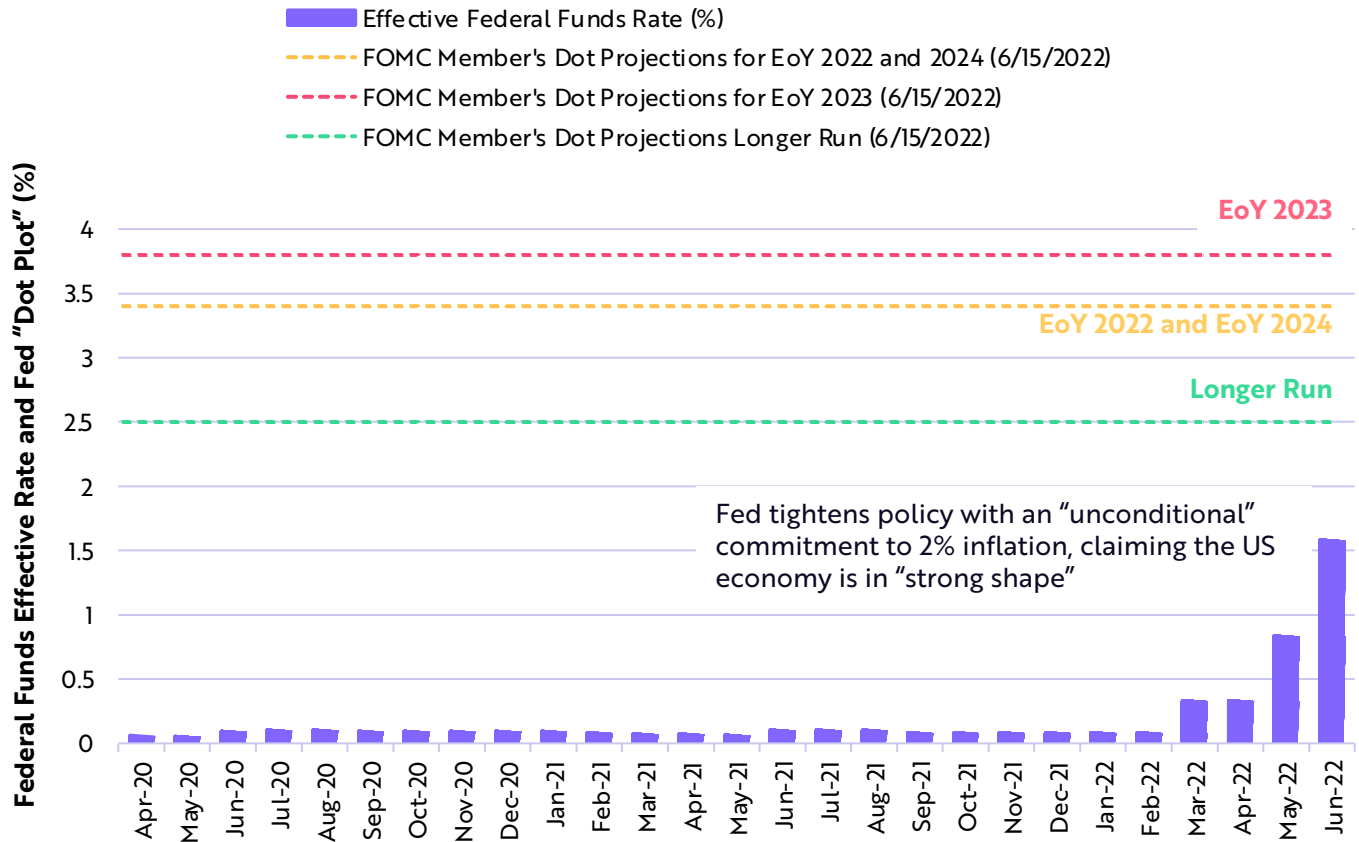
# As The Economy Shows Signs Of Recession, The Fed Could Change Its Hawkish Stance

**ARK's View: Bullish**

The Fed could change its tone as signs of recession increase and inflation expectations taper.

If the Fed continues to tighten, risk-on assets like bitcoin could continue to suffer.

### Effective Federal Funds Rate and Current FOMC "Dot Plot"



Source: ARK Investment Management LLC, 2022. Data sourced from [Ycharts](https://ycharts.com) and [federalreserve.gov](https://federalreserve.gov). Information as of June 28, 2022. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency. Forecasts are inherently limited and cannot be relied upon.



Section 5

## **Appendix: Glossary Of Terms**

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## Glossary Of Terms

- **Active Owners:** An individual or organization managing the same set of addresses sending and receiving funds. Also known as active entities.
- **Backwardation:** Describes when futures trade at a price lower than spot, denoting bullish market sentiment.
- **Contango:** Describes when expirational futures contracts are trading at a price higher than spot, suggesting a bearish market environment.
- **Cost Basis:** The on-chain volume-weighted average price of the market, calculated by aggregating the value of all bitcoins in circulation at the time when they last moved. Also known as realized price or realized cap.
- **Difficulty:** Computational power required to validate transactions in the network. "Exa-" and "tera-" hashes per second refer to units of account to a factor of  $10^{18}$  and  $10^{12}$ , respectively. Higher difficulty implies higher network security.
- **Exchange Supply:** The number of bitcoins held in addresses controlled by exchanges.
- **Expirational Futures Basis:** The difference between the price of spot and the price of expirational futures contracts.
- **Futures Basis:** The difference between the price of spot and the price of a perpetual or expirational contract.
- **Locked Supply:** The supply held by entities that have <25% probability of spending, as per their historical behavior. Also known as illiquid supply.
- **Long-term Holding and Holders (LTH):** Related to supply last moved 155 days ago or more, the cutoff point at which the possibility of a bitcoin to remain unmoved increases drastically.
- **Miner Revenue:** The number of bitcoins (in USD value) block miners obtain for securing the network.
- **MVRV Ratios:** Market cap divided by different on-chain cost bases of the market, such as realized cap or short-term-holder realized cap.
- **Net Realized Profit/Loss (NRPL):** The difference between realized profit and realized loss, normalized by market cap.
- **Net Unrealized Profit/Loss (NUPL):** The difference between unrealized profit and unrealized loss, normalized by market cap. It measures current value relative to the aggregate cost basis (realized cap) of the market to determine how much the network is in profit or loss.
- **Perpetual Futures Basis:** The difference between the price of spot and the price of non-expirational futures contracts.
- **Puell Multiple:** Miner revenue (USD) divided by the 365-day moving average of miner revenue (USD). It measures miner earnings relative to their yearly average.
- **Realized Returns:** The ratio reached by dividing the average price of bitcoins spent that day by the average price when they last moved. In essence, it is the ratio between price sold and price bought for the coins that moved that day. Also known as spent output ratio, or SOPR.
- **Short-term Holding and Holders (STH):** Related to supply that moved in the last 155 days, the cutoff point at which the possibility for a bitcoin to move again increases drastically.
- **Supply in Profit:** The percentage of bitcoins currently at a higher price compared to the price at which they last moved.
- **Time-weighted Turnover:** The number of bitcoins traded that day, multiplied by the amount of time each coin had remained dormant. Also known as coindays destroyed.
- **Transaction Volume:** The number of bitcoins that changed hands on any given day.

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