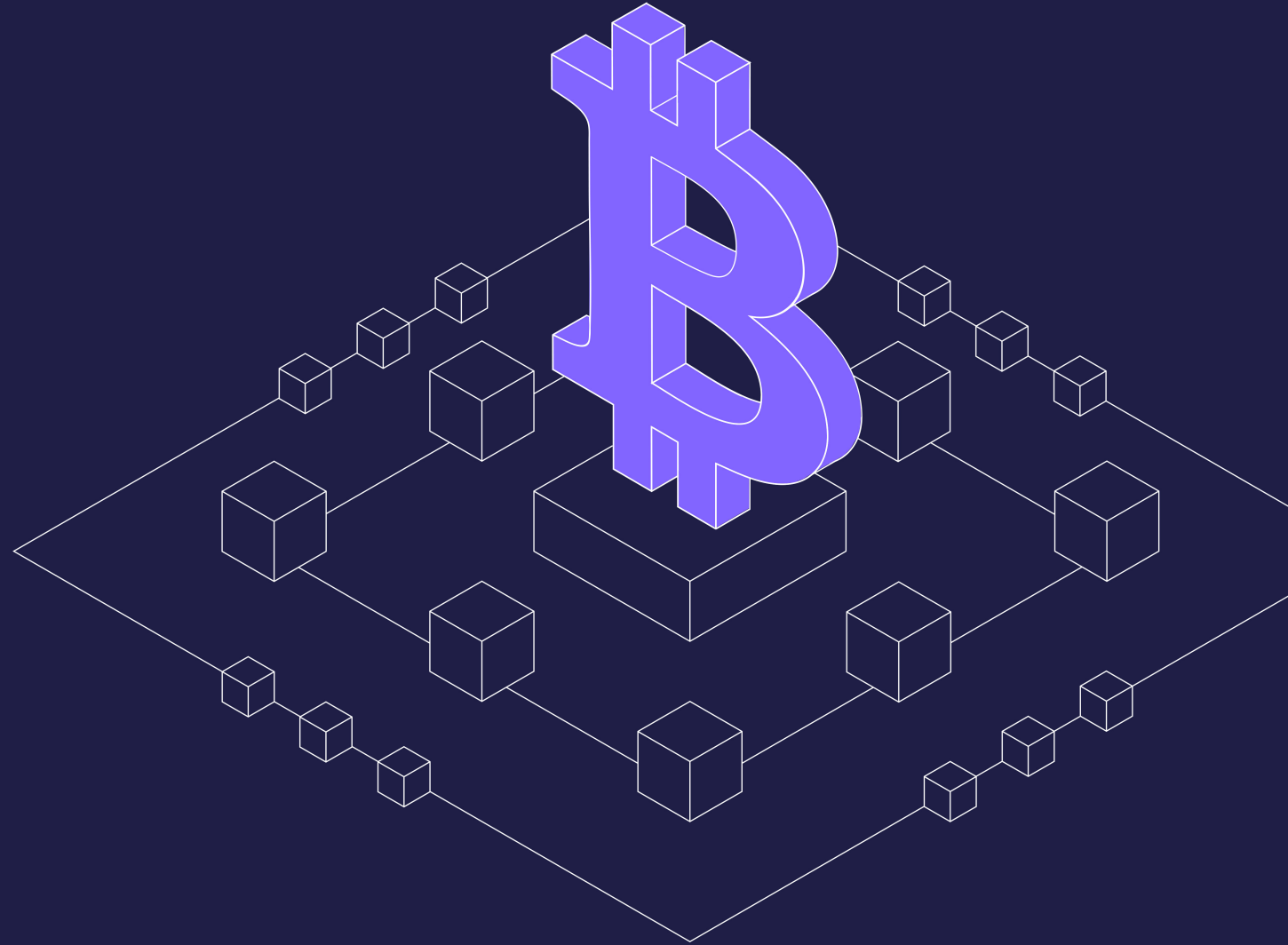


JULY 2024

# THE BITCOIN MONTHLY

BITCOIN IN THE MIDST OF  
MACRO TURMOIL





## Important Information Regarding Bitcoin

Bitcoin is a relatively new asset class, and the market for bitcoin is subject to rapid changes and uncertainty. Bitcoin is largely unregulated and bitcoin investments may be more susceptible to fraud and manipulation than more regulated investments. Bitcoin is subject to unique and substantial risks, including significant price volatility and lack of liquidity, and theft.

Bitcoin is subject to rapid price swings, including as a result of actions and statements by influencers and the media, changes in the supply of and demand for bitcoin, and other factors. There is no assurance that bitcoin will maintain its value over the long term.

ARK strongly encourages any investor considering an investment in bitcoin or any other digital asset to consult with a financial professional before investing. All statements made regarding bitcoin are strictly beliefs and points of view held by ARK and are not recommendations by ARK to buy, sell or hold bitcoin. Historical results are not indications of future results.



## SECTIONS

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Section 01

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# Market Summary





# Global Macro Turmoil Pushes The Bitcoin Price Into Deep Value Territory

## Bitcoin Appears Oversold And Underwater

- In July, the price of bitcoin increased 3.1% to \$64,612 but, by August 5, had corrected 23.3% to a local low at \$49,577, below its 200-day moving average at \$61,107 and its short-term-holder cost basis at \$65,704.
- Important bitcoin price support levels are at \$52,000 and \$46,000, the latter its on-chain mean.
- Bitcoin's Fear & Greed Index hit "extreme fear" below 25 for the first time since November 2022.
- Bitcoin's Spent Output Profit Ratio (SOPR) is pointing to a potential reversal.
- Long-term holder (LTH) supply has increased steadily since April.

## Yen Reversal And Recession Signals Activate Macro Turmoil

- As the Bank of Japan turned convincingly hawkish, the yen appreciated rapidly, its sudden and strong reversal injecting fear into the Yen Carry Trade.<sup>1</sup>
- The July employment report triggered the "Sahm Rule,"<sup>2</sup> suggesting that a recession is already underway in the US economy.

## ARK'S KEY TAKEAWAYS

- In July, bitcoin's price increased 3.1% to \$64,612. By August 5, it had corrected 23.3% to a new local low at \$49,577.
- Bitcoin's Fear & Greed Index hit "extreme fear" for the first time since the previous cycle low.
- The supply owned by long-term holders (LTH) has been increasing steadily since April.
- A sudden and strong reversal in the yen provoked concerns that the Yen Carry Trade is unwinding.

[1] Describes the trade in which investors borrow the yen given its low interest rates, then using it to buy currencies with better yields—such as the US dollar. [2] For a detailed definition of the Sahm Rule, please see page 17 of this report. Source: ARK Investment Management LLC, 2024. Data from Glassnode unless otherwise specified. Data valid as of July 31, 2024, and subject to change. For more information on certain terms, please read our Glossary Of Terms in the Appendix of this report. 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. Past performance is not indicative of future results.



# News Of The Month

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[Mt. Gox Begins Repayments in Bitcoin and Bitcoin Cash](#)

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[SEC Allows Certain Firms To Skirt Controversial Crypto Accounting Bulletin](#)

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[The German Government Depletes Its Bitcoin Reserves](#)

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[State Street Looks To Create Its Own Stablecoin](#)

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[US Spot Ethereum ETFs Saw Net Inflows Of \\$106.7 Million On First Trading Day](#)

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[Trump Hails Crypto At Largest Bitcoin Conference](#)

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[Senator Cynthia Lummis Announces BITCOIN Act of 2024](#)

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# Bitcoin On-Chain Health Improved In July

The values below reflect data as of July 31, prior to the correction that marked the local low on August 5.

	Bitcoin Metrics <sup>1</sup>	Unit	July 2024	1M Change	1Y Change	ARK's View	Upgrade/Downgrade <sup>3</sup>
Network Security	<u>Mining Difficulty</u>	Exahash/sec <sup>1</sup> (Thousands)	389.4	+8.35%	+73.26%	Bullish	No Change
	<u>Miner Revenue</u> (7-Day Moving Average)	USD (Millions)	33.4	+24.5%	+25.01%	Bullish	↑↑
Network Usage	<u>Active Owners</u> <sup>2</sup> (Active Entities, 7-Day Moving Average)	Thousands	202.5	+5.43%	-26.27%	Neutral	No Change
	<u>Transaction Volume</u> <sup>2</sup> (7-Day Moving Average)	BTC (Thousands)	144.3	+30.35%	+48.6%	Bullish	↑
Holder Behavior	<u>Long-Term-Holder Supply</u> <sup>2</sup> (Coins Held for 155 Days+)	BTC (Millions)	13.6	+0.67%	-2.37%	Neutral	No Change
	<u>Locked Supply</u> <sup>2</sup> (Illiquid Supply)	BTC (Millions)	14.4	+0.25%	+1.85%	Bullish	No Change
	<u>Time-Weighted Turnover</u> <sup>2</sup> (Coindays Destroyed, 7-Day Median)	Coindays (Millions)	11.8	-23.71%	+59.89%	Neutral	No Change

[1] For more information on these metrics and their units of account, please read the Appendix: Glossary of Terms in the Appendix of this report. [2] Data may be subject to change over time since they are entity-adjusted in real time via a machine-learning algorithm. [3] Arrows displayed in the "Upgrade/Downgrade" column convey the change in our view of that metric compared to last month. For instance, if our view changes from bearish to neutral, the arrow will be green, and so forth. One arrow denotes a 1-tier change, and two arrows denote a 2-tier change. Source: ARK Investment Management LLC, 2024. Data sourced from Glassnode. Some data may be subject to change over time since they are entity-adjusted in real time. Information as of July 31, 2024. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency.



# Bitcoin's Derivatives And Cost Bases Were Relatively Healthy At The End Of July

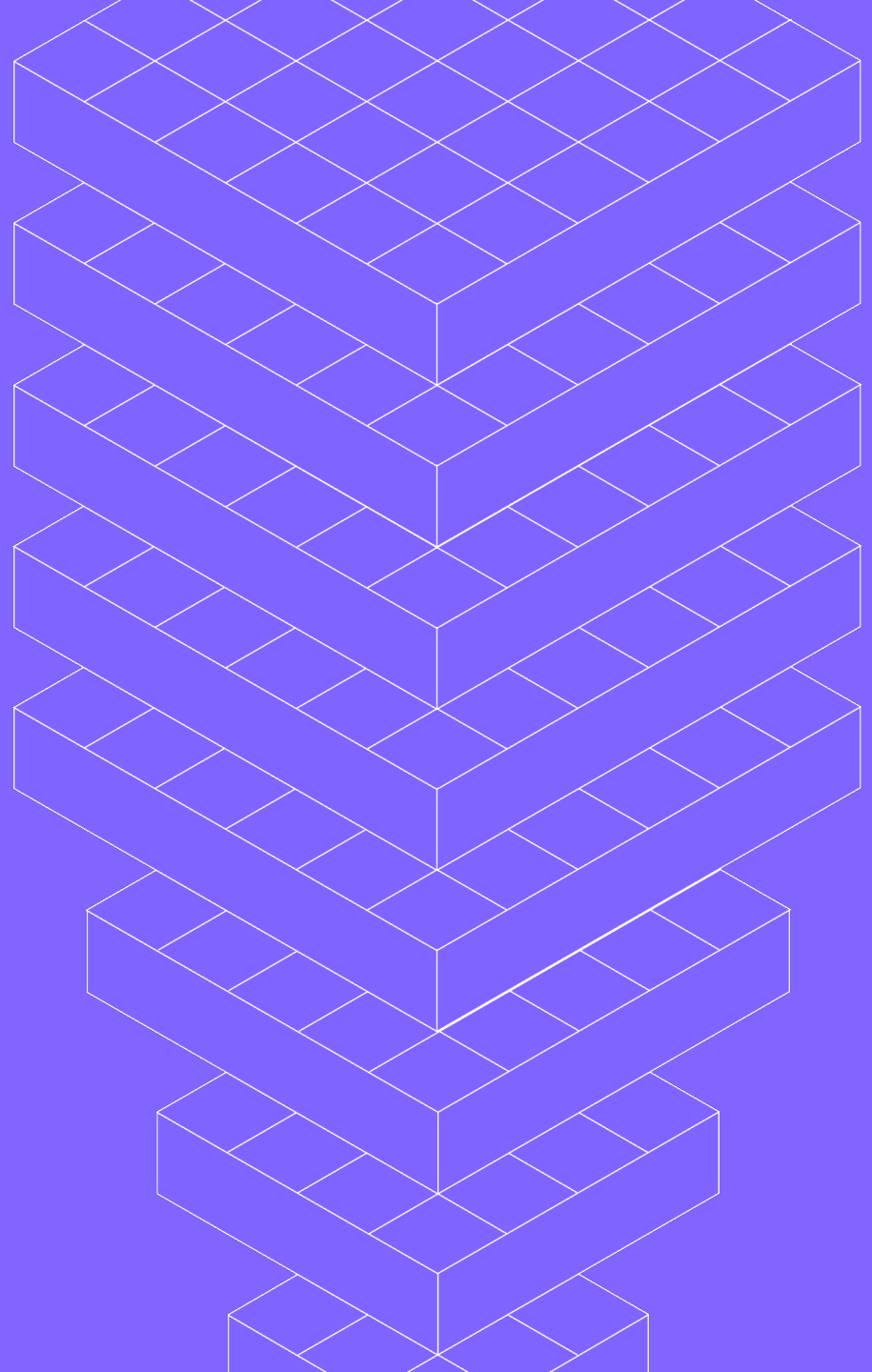
The values below reflect data as of July 31, prior to the correction that marked the local low on August 5.

	Bitcoin Metrics <sup>1</sup>	Unit	July 2024	1M Change	1Y Change	ARK's View	Upgrade/Downgrade <sup>3</sup>
Long-Term Valuation	<u>Market Cost Basis</u> (Realized Price)	USD	\$31,370	+2.21%	+54.13%	Bullish	No Change
	<u>Percent Supply In Profit</u>	pp	83.53	+0.93	+9.72	Neutral	No Change
Short-Term Valuation	<u>Short-Term-Holder Cost Basis<sup>2</sup></u> (STH Realized Price)	USD	\$65,704	+2%	+132.02%	Bullish	No Change
	<u>Realized Market Returns<sup>2</sup></u> (SOPR-1, 7-day moving average)	pp	8.7	+3.07	+6.83	Neutral	↓
Market Sentiment	<u>Perpetual Futures Basis</u> (Binance, Estimated)	pp	-0.04	-0.02	0	Bullish	No Change
	<u>Expirational Futures Basis</u> (Quarterly, All Exchanges, Annualized)	pp	10.75	-0.85	+4.45	Neutral	No Change

[1] For more information on these metrics and their units of account, please read the Appendix: Glossary of Terms in the Appendix of this report. [2] Data may be subject to change over time since they are entity-adjusted in real time via a machine-learning algorithm. [3] Arrows displayed in the "Upgrade/Downgrade" column convey the change in our view of that metric compared to last month. For instance, if our view changes from bearish to neutral, the arrow will be green, and so forth. One arrow denotes a 1-tier change, and two arrows denote a 2-tier change. Source: ARK Investment Management LLC, 2024. Data sourced from Glassnode. Some data may be subject to change over time since they are entity-adjusted in real time. The perpetual futures basis was estimated internally on the basis of data from TradingView, and it is subject to change. Information as of July 31, 2024. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency.



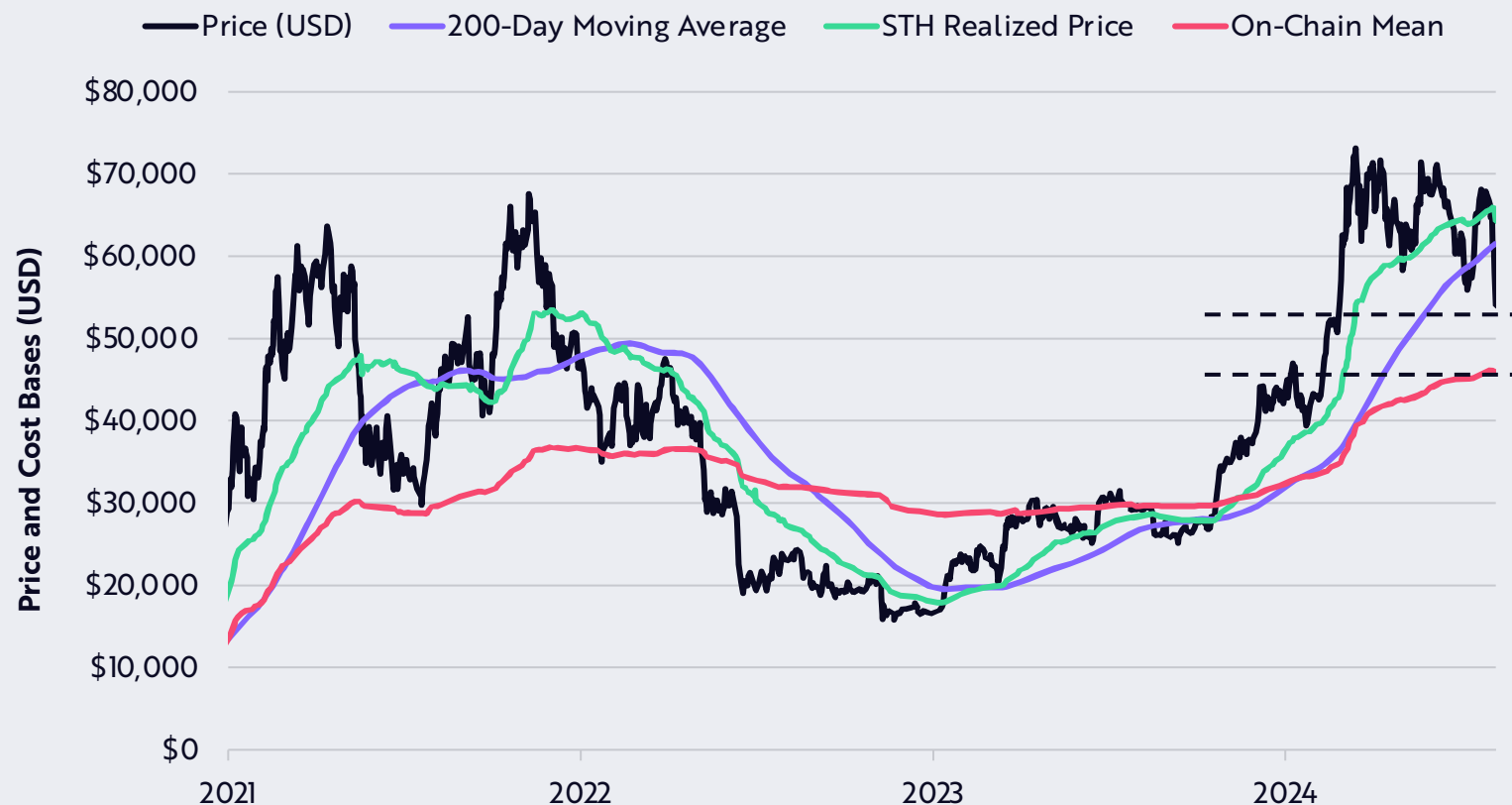
# Bitcoin Appears Oversold And Underwater





# The Bitcoin Price Has Oscillated Around Its 200-Day Moving Average And Short-Term-Holder Cost Basis

## Bitcoin Mean Reversion



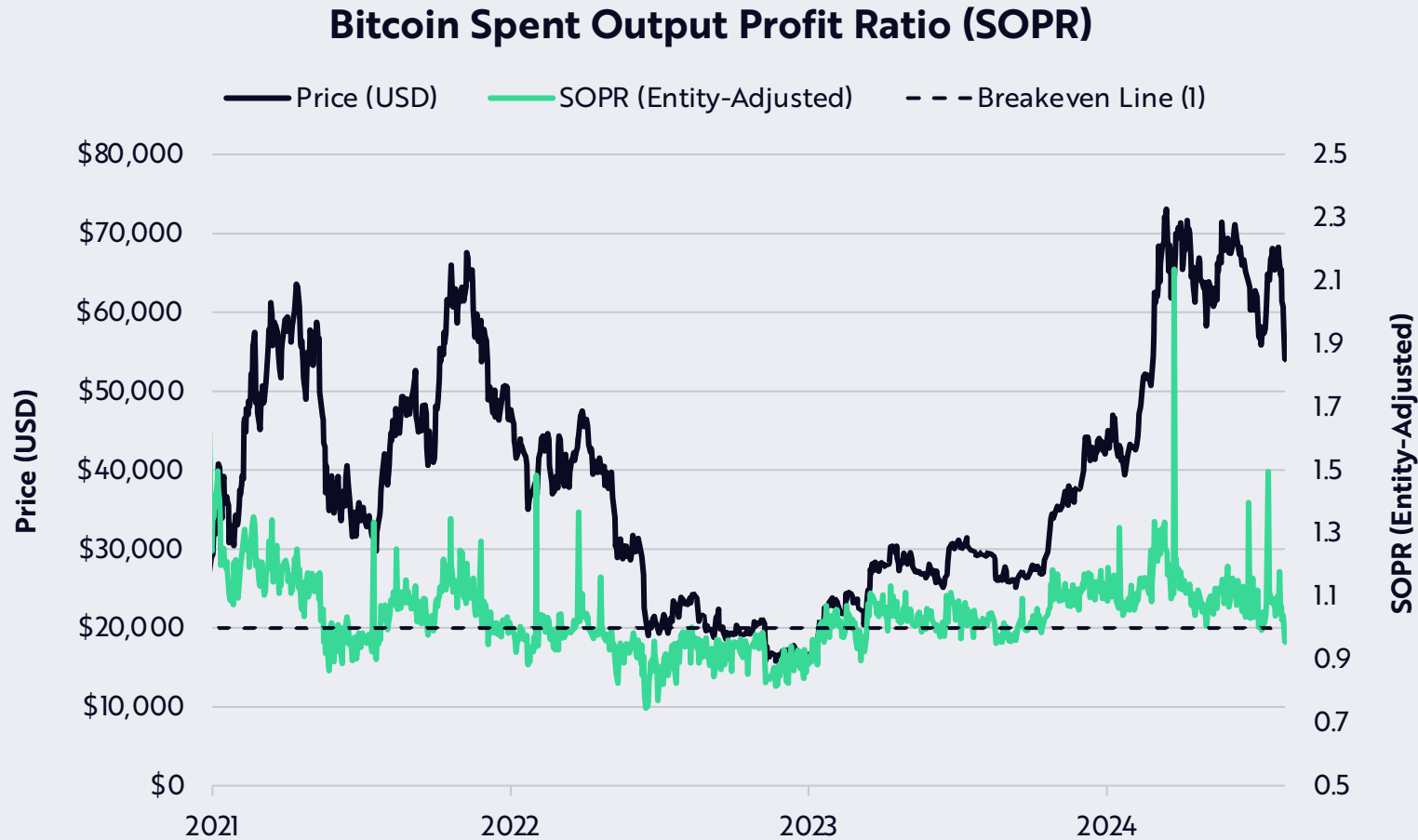
### ARK'S VIEW: BEARISH

- In July, bitcoin's price increased 3.1% to \$64,612.
- By August 5, however, bitcoin's price had corrected 23.3% to a new local low at \$49,577.
- During the last two weeks of July, bitcoin regained and then lost its 200-day moving average at \$61,107 and its short-term-holder cost basis at \$65,704.
- Now, bitcoin's most important price supports are at \$52,000 and \$46,000, the latter confirmed by its on-chain mean, the red line on the chart.

Source: ARK Investment Management LLC, 2024. Chart data from Glassnode. Information as of August 5, 2024. Data may be subject to change over time since they are entity-adjusted in real time via a machine-learning algorithm. For more information on certain terms, please read our Glossary Of Terms in the Appendix of this report. 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. Past performance is not indicative of future results.



# Bitcoin's SOPR Suggests That The Market Has Reset



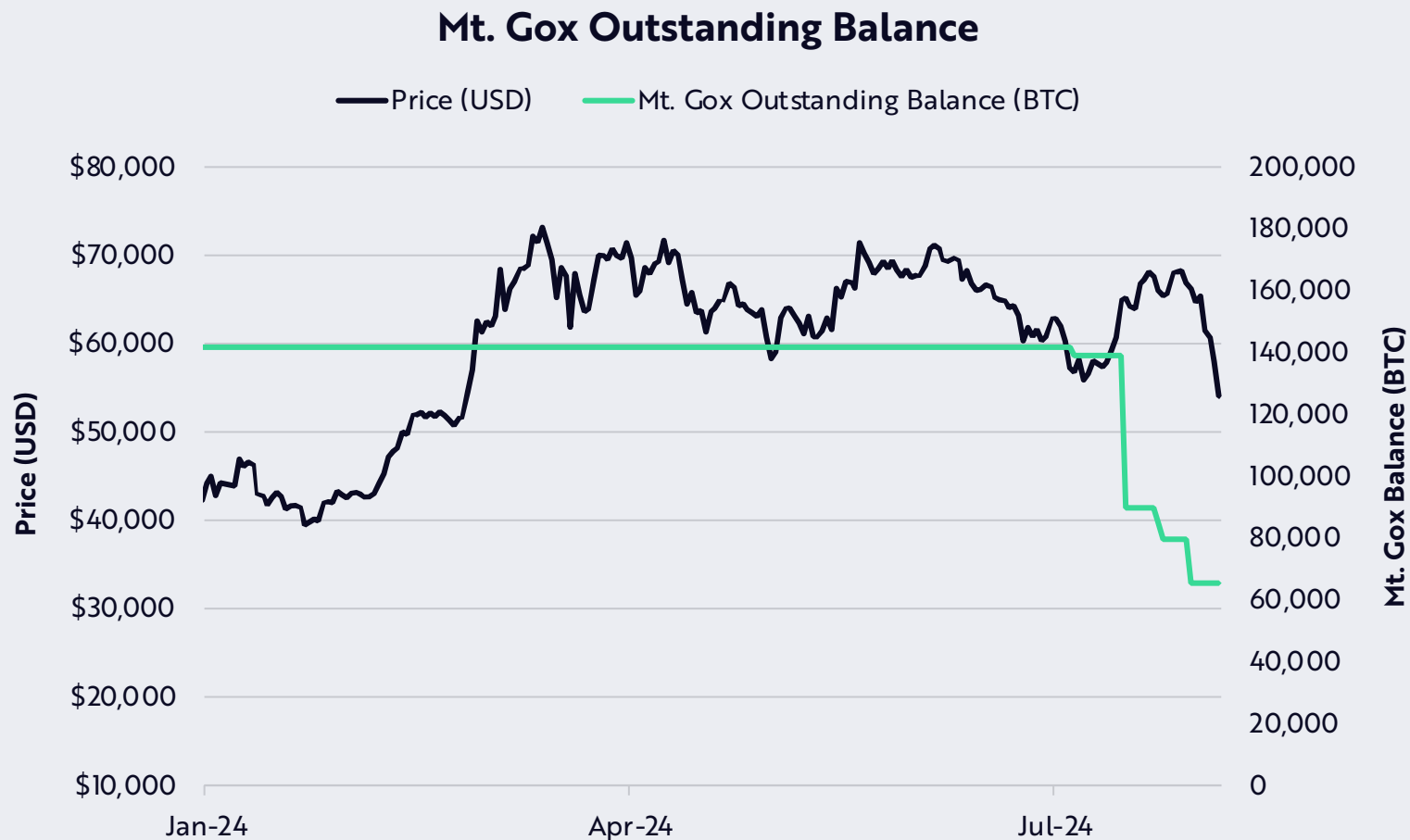
## ARK'S VIEW: BULLISH

- On August 5, its price 33.5% below its all-time high, bitcoin's spent output profit ratio (SOPR) dipped slightly below breakeven at 0.95, suggesting the possibility of a bullish reversal given bitcoin's bullish primary trend.

Source: ARK Investment Management LLC, 2024. Chart data from Glassnode. Information as of August 5, 2024. Data may be subject to change over time since they are entity-adjusted in real time via a machine-learning algorithm. For more information on certain terms, please read our Glossary Of Terms in the Appendix of this report. 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. Past performance is not indicative of future results.



## More Than Half Of Mt. Gox's Balance Has Been Distributed To Creditors



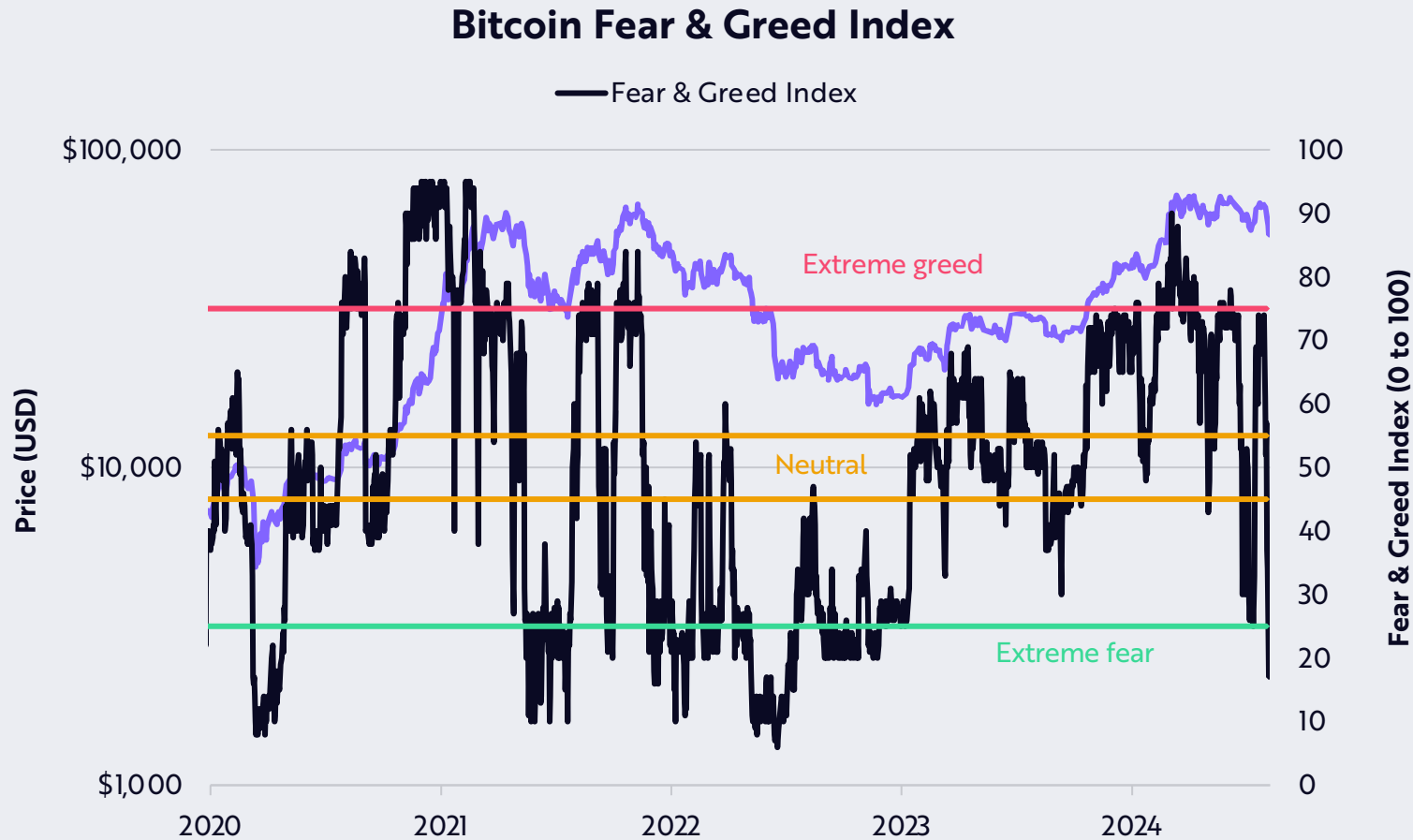
### ARK'S VIEW: BEARISH

- Month-over-month, the Mt. Gox<sup>1</sup> balance has dropped 52.8%, from ~139,000 bitcoin to ~65,000.
- After a decade-long bankruptcy case, 17,000 creditors received the balance.
- While a portion of the balance could cause selling pressure, we believe that long-term investors experienced in the digital assets space will hold the bitcoin they receive.

[1] Bitcoin exchange that once handled 70% of bitcoin's total trading volume. It declared bankruptcy in 2014 after it was found to have run a fraudulent fractional reserve, incurring the loss of 850k bitcoin from users' funds at the time. Source: ARK Investment Management LLC, 2024. Chart data from Glassnode. Information as of August 5, 2024. Data may be subject to change over time. For more information on certain terms, please read our Glossary Of Terms in the Appendix of this report. 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. Past performance is not indicative of future results.



# Bitcoin's Fear & Greed Index Hit "Extreme Fear" For The First Time Since Late 2022



## ARK'S VIEW: BULLISH

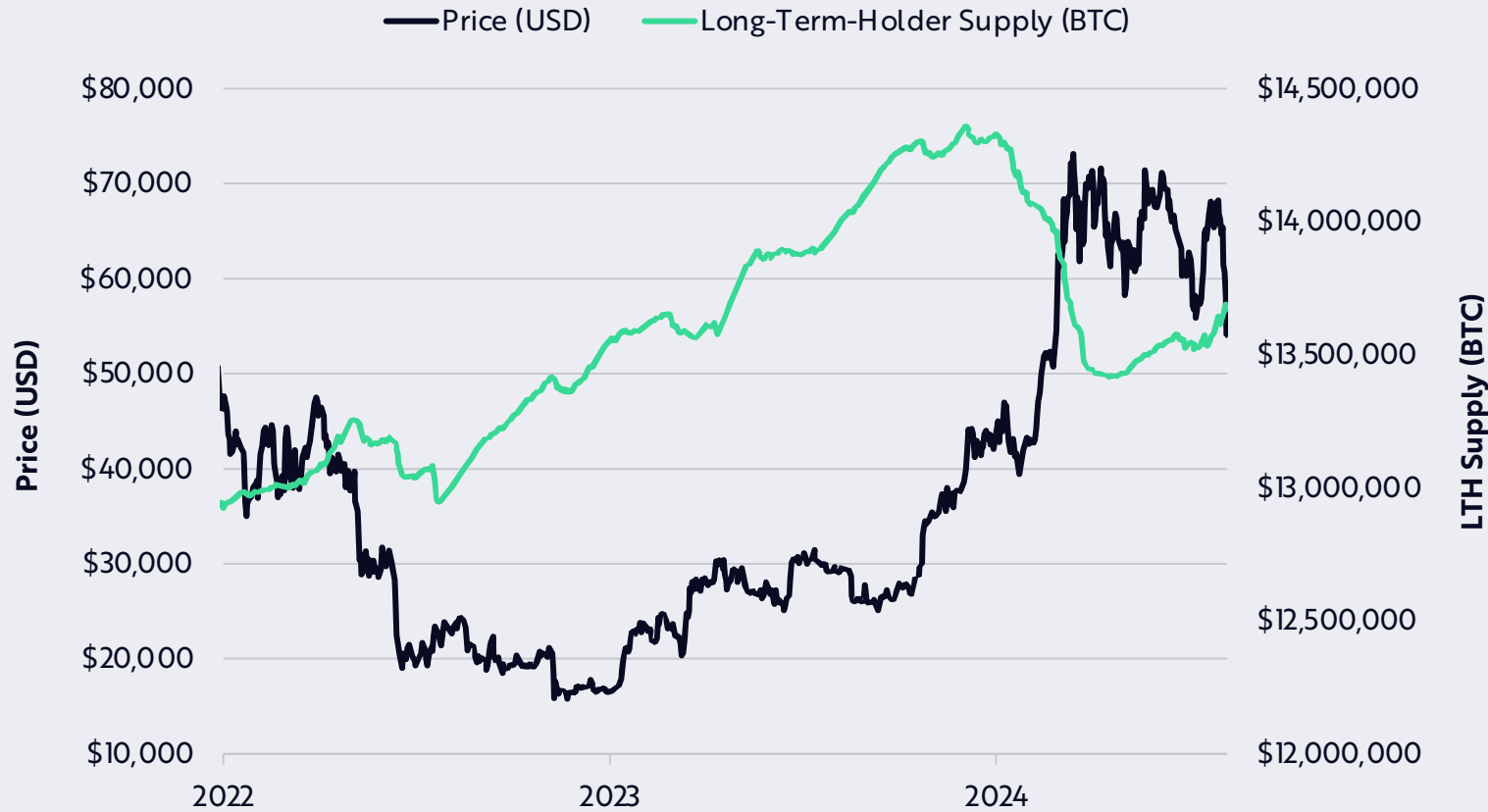
- On August 5, bitcoin's Fear & Greed Index reached "extreme fear" below 25 for the first time since November 2022, the last cyclical low.
- Bitcoin's Fear & Greed Index weights price-derived and sentiment-based metrics including volatility, market momentum, volume, social media, bitcoin's market cap dominance against other cryptoassets, and bitcoin's Google Trends.

[1] Bitcoin's Fear & Greed Index is produced daily by Alternative.me. For more information on the methodology for this Index, please visit its [official website](#). Source: ARK Investment Management LLC, 2024. Chart data by Alternative.me via Glassnode. Information as of August 5, 2024. 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. Past performance is not indicative of future results.



# Supply Held By Long-Term Holders Has Accelerated To The Upside

## Bitcoin Long-Term-Holder Supply



### ARK'S VIEW: BULLISH

- Despite three major price corrections in 2024, the supply owned by long-term holders (LTH) has been increasing steadily since April.
- At the end of July, LTH supply had increased 1.5%, quarter-over-quarter.

Source: ARK Investment Management LLC, 2024. Chart data from Glassnode. Information as of August 5, 2024. Data may be subject to change over time since they are 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. Past performance is not indicative of future results.



Section 03

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# Yen Reversal And Recession Signals Activate Macro Turmoil





# The Yen Reversed Course And Appreciated Dramatically On July 11



## ARK'S VIEW: BEARISH

- In April's Bitcoin Monthly, we noted that the yen had depreciated to a level not seen since the early 1990s and that US interest rates were high relative to Japanese interest rates.
- As the Bank Of Japan ramped up its hawkish action and rhetoric, the yen—the world's third-most traded currency—began to appreciate rapidly.
- The strong and sudden reversal of the yen relative to the dollar created fear that the more than ten-year yen carry trade was unwinding.
- For a more detailed explanation, please tune in to this month's "In The Know with Cathie Wood" [here](#).

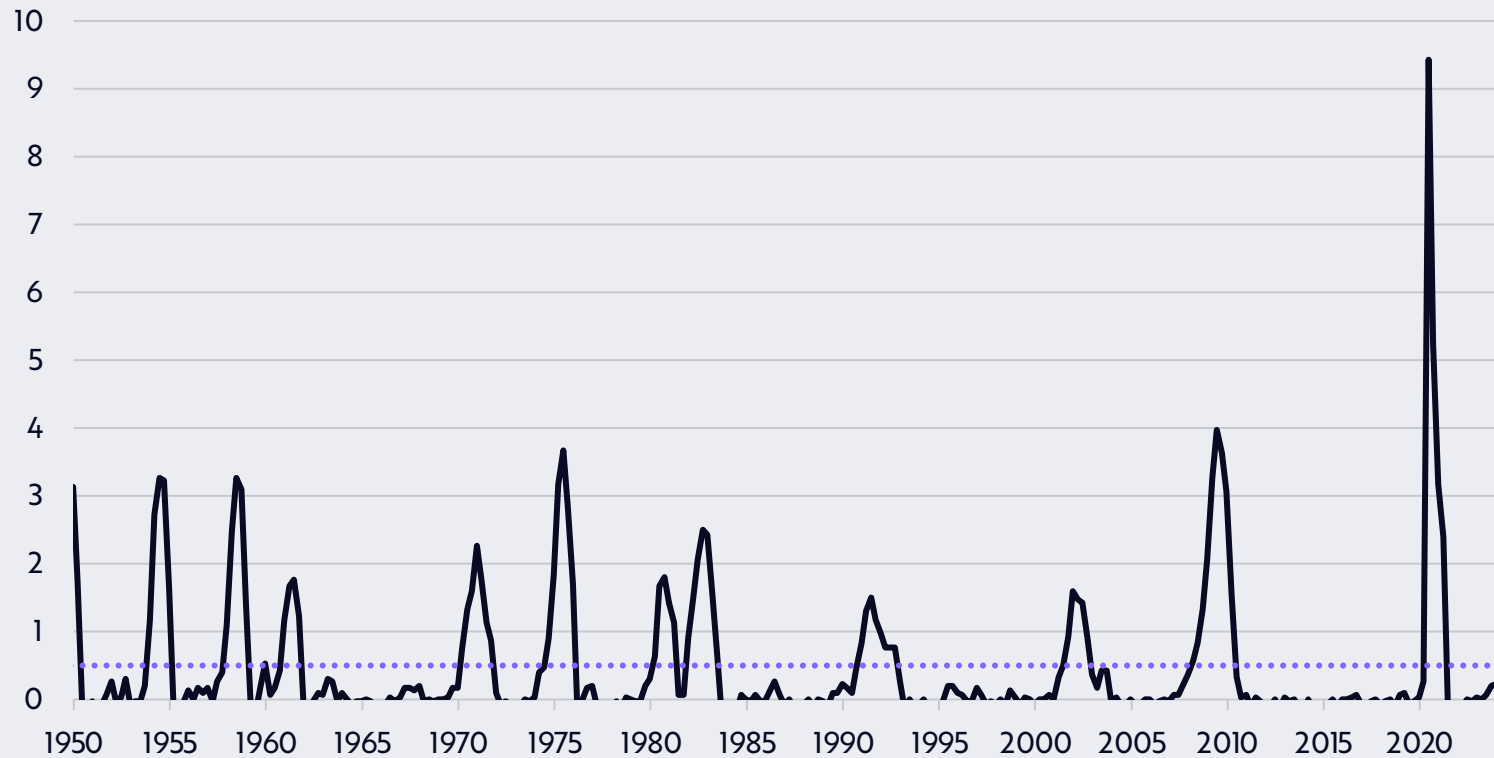




# The Sahm Rule Suggests Recession

## US Sahm Rule

— Sahm Rule



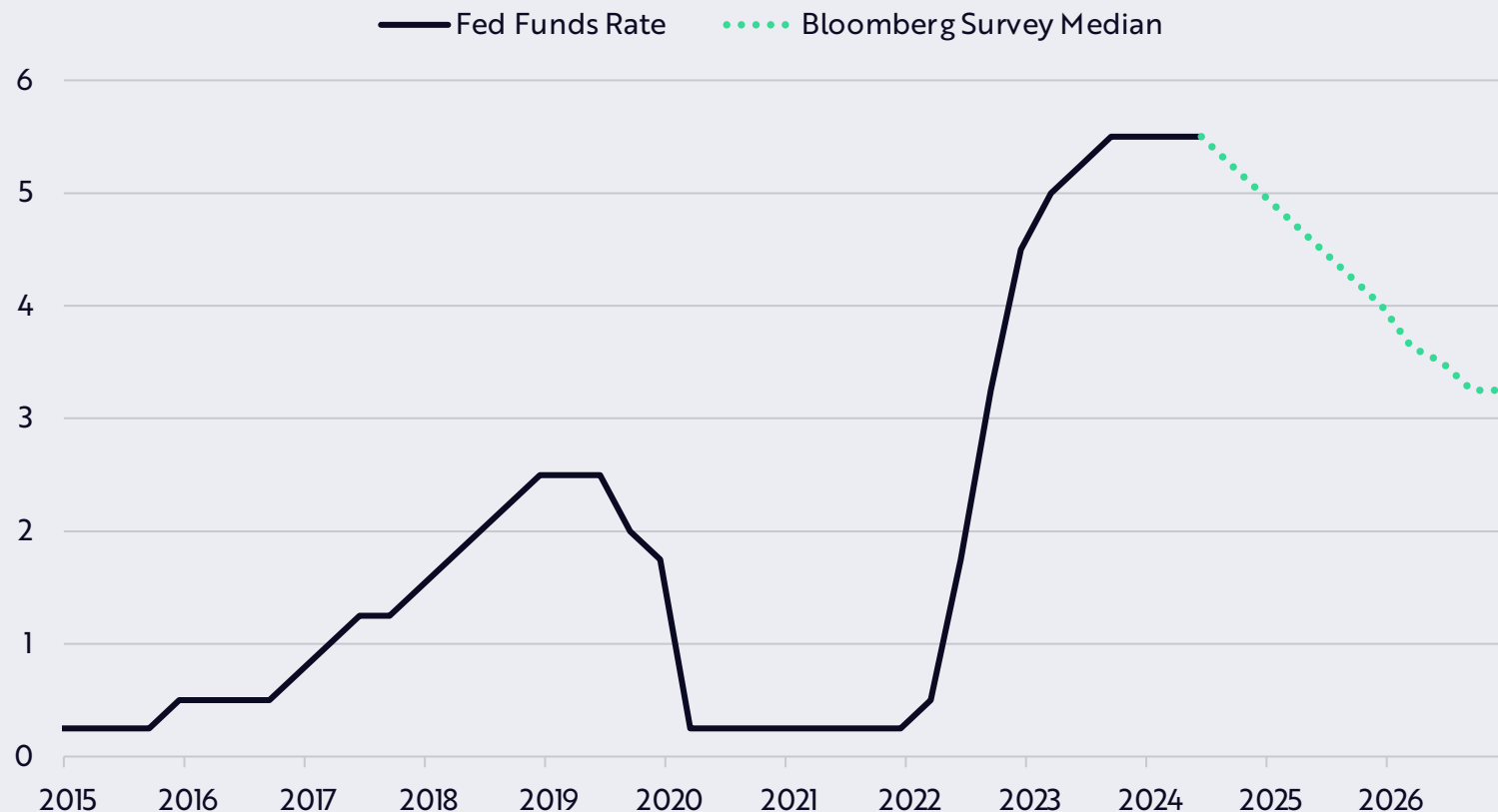
### ARK'S VIEW: BEARISH

- The July employment report triggered the "Sahm Rule," signaling a recession, as the three-month moving average of the US unemployment rate hit 50 basis points above its lowest level over the last 12 months.
- On average, before the Sahm rule triggers, the economy has been in recession for three months.



# Was The Fed Too Slow, Again?

## Federal Funds Rate (Upper Bound)



### ARK'S VIEW: NEUTRAL

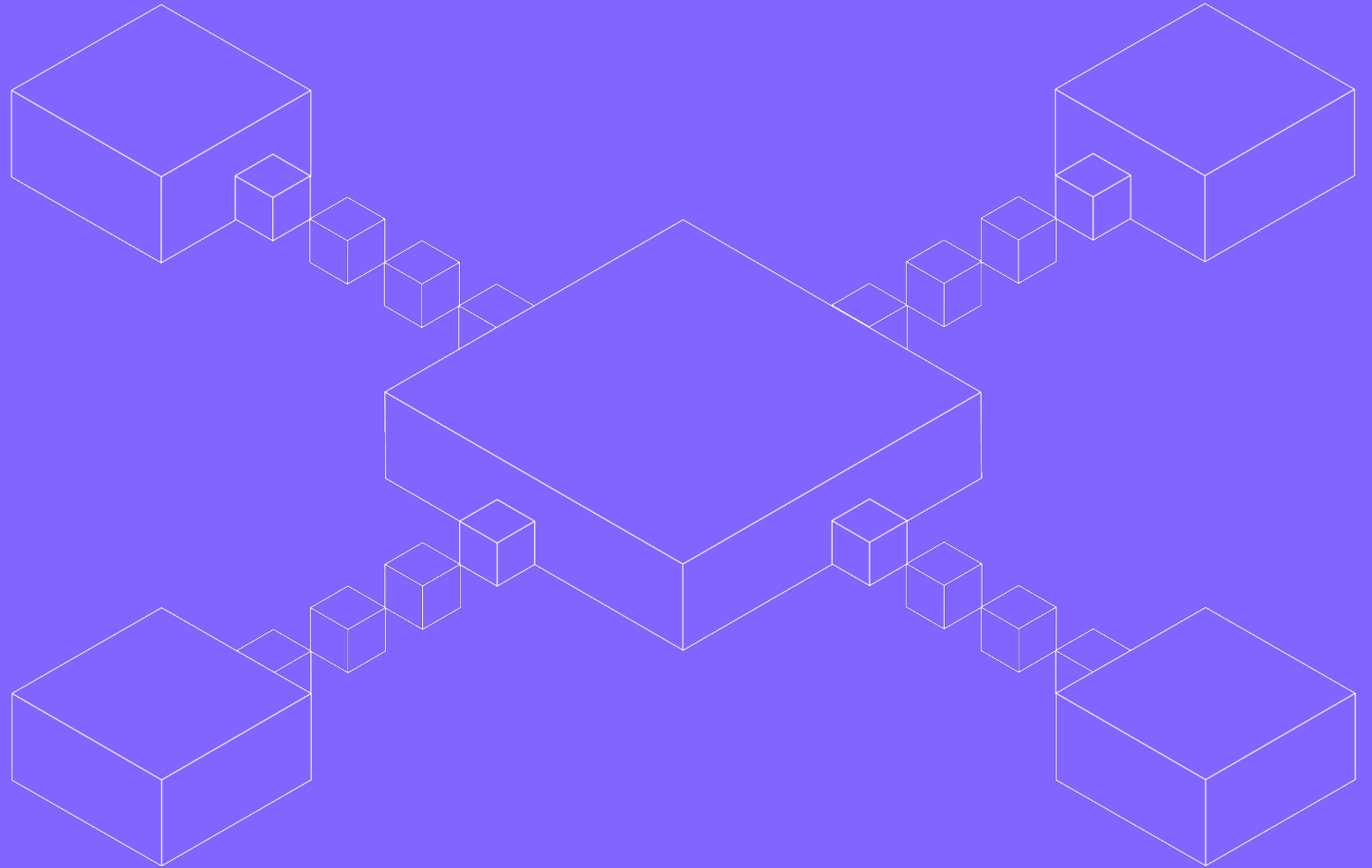
- During July, Bloomberg surveyed more than 75 economists to forecast the Federal Funds Rate.
- The consensus expectation was that the the Fed would cut the Fed funds rate by 25 bps by year-end. After the employment report on August 2, the forecasted rate cuts increased to as many as four to six cuts.



Section 04

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# Appendix: Glossary Of Terms





# Glossary Of Terms

**Accumulation Addresses:** Defined as those addresses that have received two or more economically meaningful transactions (non-dust transactions) and have never spent funds. Exchange and miner addresses are discarded. “Accumulation balance” refers to coins held in these addresses.

**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.

**BRC-20:** A token standard that enables the minting and transaction of fungible tokens via the Ordinals protocol on the Bitcoin network.

**Coinblocks Created:** The number of coins in the Bitcoin network times the number of blocks at any given day.

**Coinblocks Destroyed:** The number of coins transacted at any given day times the number of blocks each coin remained dormant.

**Contango:** Describes when expirational futures contracts are trading at a price higher than spot, suggesting a bearish market environment.

**Consumer Price Index (CPI):** Measurement that tracks how the average price of a basket of consumer goods and services changes over time. It's often used to calculate inflation.

**Delta Cost Basis:** An adjusted version of the market cost basis. It is calculated by subtracting the life-to-date moving average of bitcoin's price from its realized price. The measure is used to gauge the downside risk of a bear market. Also known as delta price or delta 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.

**Federal Funds Policy Rate:** This is the interest rate at which banks lend money to each other overnight. It's set by a country's central bank (like the Federal Reserve in the U.S.) and influences other interest rates throughout the economy.

**Fiat Currency:** Government-issued money that is not backed by a commodity like gold or silver, but rather by the government that issues it.

**Futures Basis:** The difference between the price of spot and the price of a perpetual or expirational contract.

**Gross Domestic Income (GDI):** This is the *nominal* total income earned by a country's residents and businesses, including wages, profits, and taxes minus subsidies. It's a way to measure the economic health of a country, much like GDP. The *real* GDI adjusts for price change by expressing values at base-year prices, not current market prices.

**Gross Domestic Product (GDP):** This is the *nominal* total value of all goods and services produced in a country over a certain period of time, usually a year. It's another way to measure a country's economic performance. The *real* GDP adjusts for price change by expressing values at base-year prices, not current market prices.

**Hash Rate:** The estimated computational power mining within and providing security to the Bitcoin network.

**Investor Cost Basis:** An adjusted version of the market cost basis. It is calculated by subtracting the life-to-date cumulative miner revenue in USD (thermo cap) from realized price. Also known as investor price or investor cap.

**Liveliness:** The ratio of the sum of coindays created to the sum of coindays destroyed. Liveliness rises when old coins move and decreases when participants hold on to their bitcoin. In essence, it's the ratio of coin movement to coin dormancy in the network.

**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 threshold at which the possibility of a bitcoin remaining unmoved increases drastically.

**Market 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.

**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.

**Natural Rate of Interest:** Theoretical interest rate that at which the economy is neither expanding nor contracting.

**Net Realized Profit/Loss (NRPL):** The difference between realized profit and realized loss, normalized by market cap.



# Glossary Of Terms, Continued

**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.

**On-Chain:** Refers to metrics or economic activity occurring on the blockchain ledger of most cryptocurrencies.

**On-Chain Mean:** Developed collaboratively by ARK Invest and Glassnode, on-chain mean is calculated by dividing the cost basis capitalization of investors—the secondary market of the Bitcoin network—by the number of active coins in the network based on their aggregate time of dormancy proportional to total supply. Also known as “active-investor price” or “true market mean.”

**Ordinals:** Refers to the creation of non-fungible tokens (NFTs) in the Bitcoin network by making Inscriptions, where metadata such as images or videos are attached to individual satoshis (the smallest unit of account).

**Patoshi:** Entity estimated to be Satoshi Nakamoto, the creator and first miner of bitcoin.

**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 (SOPR):** 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 of price sold to price bought for the coins that moved that day. Also known as spent output ratio, or SOPR.

**Regional Cumulative Price Change:** The sum of month-over-month (30-day) price action during the business hours of the major financial hubs worldwide: New York for the US, London for Europe, and Hong Kong for Asia.

**Seller Exhaustion Constant:** A metric created by ARK to measure the convergence of two market factors: high losses denoting capitulation and low volatility denoting market exhaustion.

**Short-term Holding and Holders (STH):** Related to supply that moved in the last 155 days, the threshold at which the potential for a bitcoin to move again increases drastically.

**SOPR:** The Spent Output Profit Ratio is calculated by dividing the realized value of a spent output (in USD) divided by the dollar value at the point of its creation. In other words, it divides the aggregate price of coins sold by the aggregate price where those coins were initially bought.

**Supply in Profit (Percentage):** The percentage of bitcoins currently at a higher price compared to the price at which they last moved.

**S&P 500 Index:** Short for “The Standard and Poor's 500,” it is a stock market index tracking the performance of 500 of the largest public companies in the United States.

**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.

**Velocity-Adjusted Cost Basis:** It subtracts the cumulative dollar value of coins spent over time from the general cost basis of the market (realized price). Also known as balanced price is (the smallest unit of account).



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ARK aims to educate investors and to size the potential opportunity of Disruptive Innovation, noting that risks and uncertainties may impact our projections and research models. Investors should use the content presented for informational purposes only, and be aware of market risk, disruptive innovation risk, regulatory risk, and risks related to Deep Learning, Digital Wallets, Battery Technology, Autonomous Technologies, Drones, DNA Sequencing, CRISPR, Robotics, 3D Printing, Bitcoin, Blockchain Technology, etc. **Cryptocurrency Risk.** Cryptocurrencies (also referred to as "virtual currencies" and "digital currencies") are digital assets designed to act as a medium of exchange. Cryptocurrency is an emerging asset class. There are thousands of cryptocurrencies, the most well-known of which is bitcoin. Cryptocurrency generally operates without central authority (such as a bank) and is not backed by any government. Cryptocurrency is not legal tender. Federal, state and/or foreign governments may restrict the use and exchange of cryptocurrency, and regulation in the U.S. is still developing. The market price of bitcoin and other cryptocurrencies have been subject to extreme fluctuations. Similar to fiat currencies (i.e., a currency that is backed by a central bank or a national, supra-national or quasi-national organization), cryptocurrencies are susceptible to theft, loss and destruction. Cryptocurrency exchanges and other trading venues on which cryptocurrencies trade are relatively new and, in most cases, largely unregulated and may therefore be more exposed to fraud and failure than established, regulated exchanges for securities, derivatives and other currencies. Cryptocurrency exchanges may stop operating or permanently shut down due to fraud, technical glitches, hackers or malware, which may also affect the price of cryptocurrencies. **Cryptocurrency Tax Risk.** Many significant aspects of the U.S. federal income tax treatment of investments in bitcoin and other cryptocurrencies are uncertain and still evolving.

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