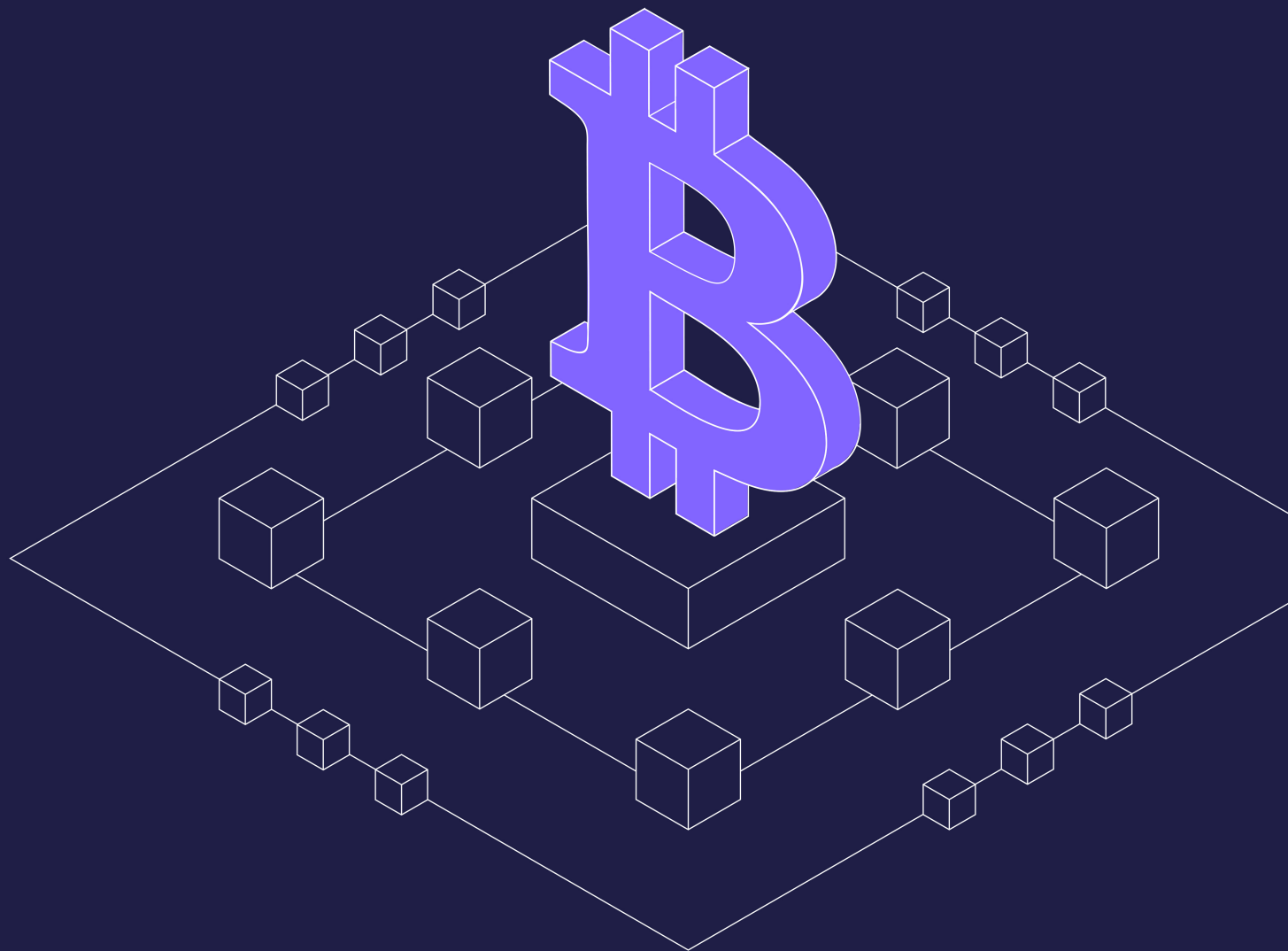




As of June 30, 2023

THE BITCOIN MONTHLY

THE DAWN OF THE ETF ERA?



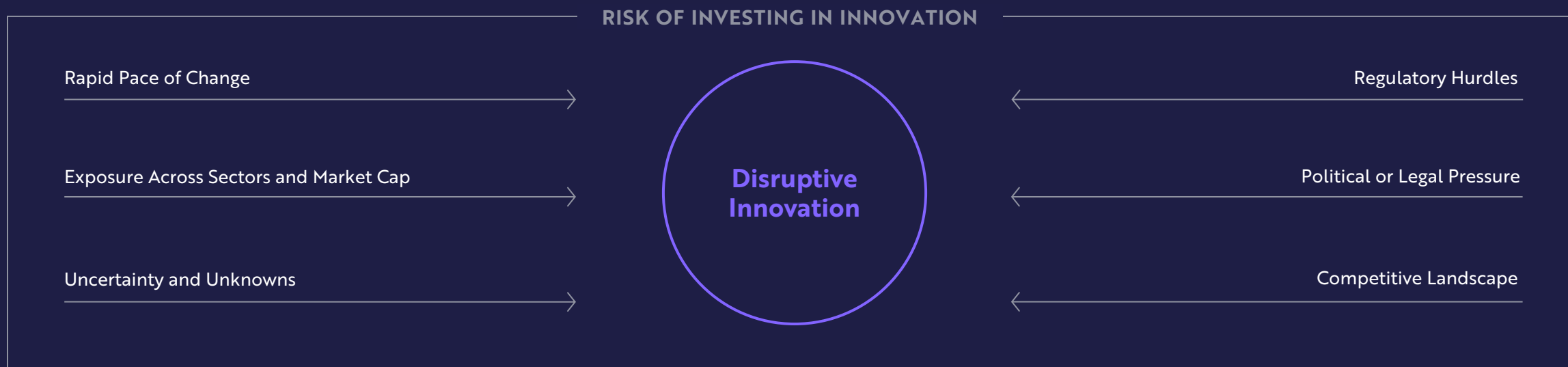
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RISKS OF INVESTING IN INNOVATION

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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 01

Market Summary





Bitcoin's Positive Institutional Sentiment Makes A Comeback

Bitcoin Finds Support From Strong Holders And Improved Institutional Sentiment

- During June, the supply of bitcoin that has been unmoved for at least one year reached an all-time high, ~70% of circulating supply.
- Perhaps because of Blackrock's Bitcoin ETF application or indications that Grayscale had gained an edge during its trial against the SEC, GBTC's discount to bitcoin's net asset value (NAV) narrowed toward a one-year low.
- The balance of bitcoin on OTC desks, a proxy for institutional activity, hit a one-year high.

Is The Global Economy Heading Toward Recession?

- Recent data from the manufacturing sector are pointing toward a recession. New orders in the Purchasing Managers' Index, a proxy for future manufacturing activity, are declining.
- In 2022, US Gross Domestic Product (GDP) declined for two consecutive quarters, implying a technical recession. Currently, US Gross Domestic Income (GDI) is contracting sequentially.

ARK'S KEY TAKEAWAYS

- In June, bitcoin closed at \$30,460, up 11.9%.
- Bitcoin found strong technical support at its 200-week moving average, closing the month 14% above it.
- Following ARK/21 Shares' filing in April, BlackRock filed for a Bitcoin ETF in June. Sensing some progress toward the approval of a Bitcoin spot ETF, other issuers—including Invesco, WisdomTree, Valkyrie, and Bitwise—threw their hats back into the ring.



News Of The Month

[SEC Charges Coinbase For Operating As An Unregistered Securities Exchange, Broker, And Clearing Agency](#)

[SEC Files 13 Charges Against Binance Entities And Founder Changpeng Zhao](#)

[BlackRock Files For Bitcoin ETF In Push Into Crypto](#)

[Robinhood To Delist Tokens For Solana, Cardano, and Polygon After SEC Suits Name Them As Securities](#)

[Tether USDT Stablecoin's Market Cap Climbs To All-Time High Of \\$83.2B](#)

[BinanceUS Suspends USD Deposits As Bank Partners Will Pause Dollar Payments](#)

[BitGo Announces Deal To Buy Custodian Prime Trust, Then Backs Out Following Further Due Dilligence](#)

[Binance Exits The Netherlands After Failing To Acquire Regulatory Approval](#)

[U.S. Fed Chair Jerome Powell Says Central Bank Needs 'Robust' Role Overseeing Stablecoins](#)

[Fidelity Readies New Spot Bitcoin ETF Filing, Joining WisdomTree, Invesco, VanEck, and Bitwise In Following BlackRock](#)

[Circle Obtains Major Payment Institution License In Singapore](#)

[a16z Opening London Crypto Office, Citing "Predictable" Environment](#)

[Hong Kong Reiterates Banks Should Support Licensed Crypto Exchanges](#)

[Polygon Unveils Plan To Build Network Of ZK-based Layer 2 Chains](#)



Bitcoin's Holder Base And Network Activity Remain Strong

	Bitcoin Metrics ¹	Unit	June 2023	1M Change	1Y Change	ARK's View	Upgrade/Downgrade ³
Network Security	<u>Mining Difficulty</u>	Exahash/sec ¹ (Thousands)	217	+2.21%	+71.2%	Bullish	No Change
	<u>Miner Revenue</u> (7-Day Moving Average)	USD (Millions)	\$26.9	-2.47%	+44.92%	Bullish	No Change
Network Usage	<u>Active Owners²</u> (Active Entities, 7-Day Moving Average)	Thousands	269.2	+9.1%	+11.47%	Bullish	↑
	<u>Transaction Volume²</u> (7-Day Moving Average)	BTC (Thousands)	146.5	+30%%	-36.71%	Neutral	No Change
Holder Behavior	<u>Long-Term-Holder Supply²</u> (Coins Held for 155 Days+)	BTC (Millions)	14.46	+0.11%	+7.26%	Bullish	No Change
	<u>Locked Supply²</u> (Illiquid Supply)	BTC (Millions)	15.23	+1.36%	+6.41%	Bullish	No Change
	<u>Time-Weighted Turnover²</u> (Coindays Destroyed, 7-Day Median)	Coindays (Millions)	10.6	+17.79%	+20.54%	Neutral	No Change

[1] For more information on these metrics and their units of account, please read the Appendix: Glossary of Terms on page 21 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, 2023. Data sourced from [Classnode](#). Some data may be subject to change over time since they are entity-adjusted in real time. Information as of June 28, 2023. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency.

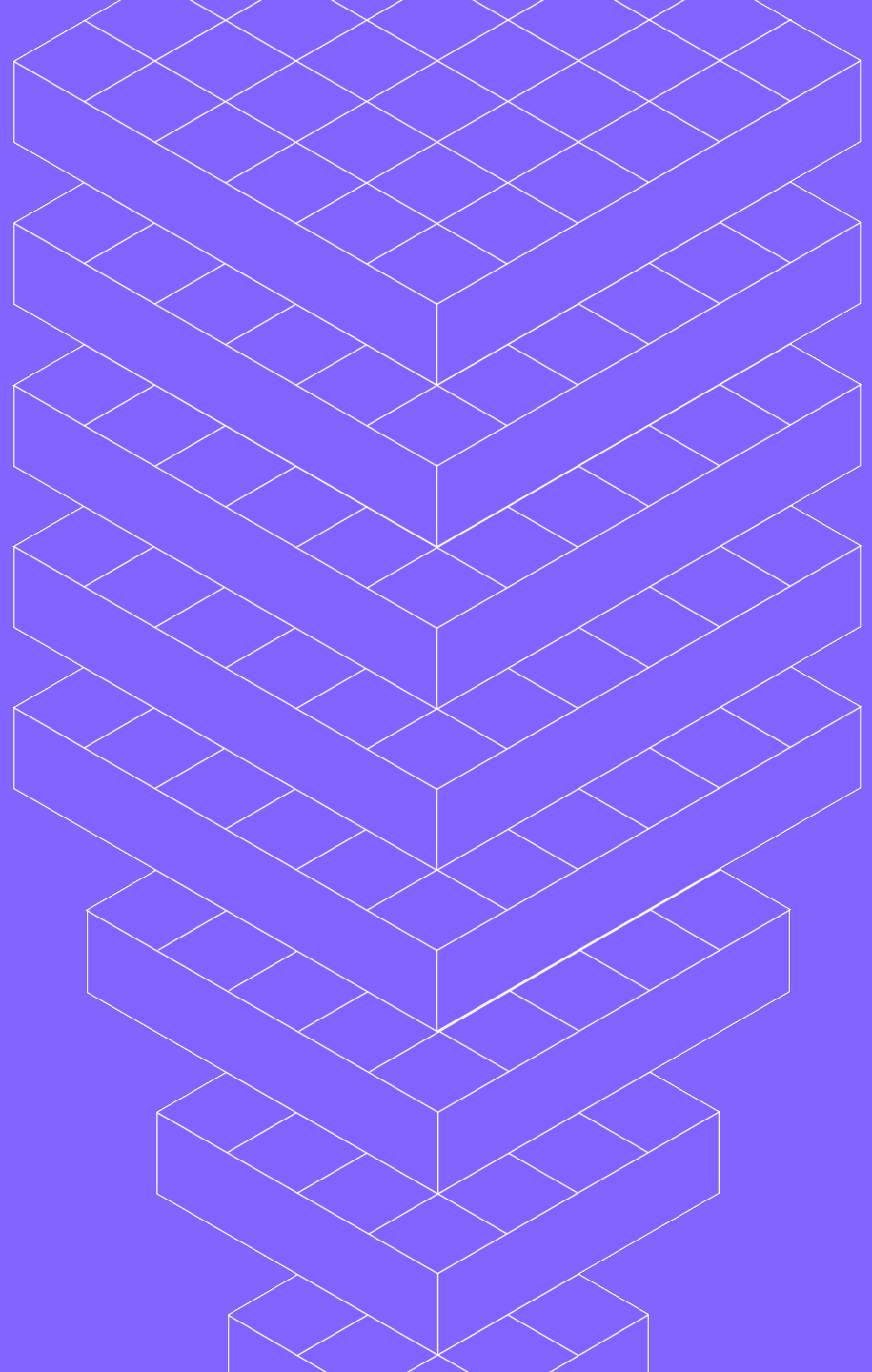


Bitcoin's Cost Bases And Profitability Have Increased

	Bitcoin Metrics ¹	Unit	June 2023	1M Change	1Y Change	ARK's View	Upgrade/ Downgrade ³
Long-Term Valuation	<u>Market Cost Basis</u> (Realized Price)	USD	\$20,322	+0.67%	-9.44%	Bullish	No Change
	<u>Percent Supply In Profit</u>	pp	76.22%	+8.24 pp	+23.1 pp	Bullish	No Change
Short-Term Valuation	<u>Short-Term-Holder Cost Basis²</u> (STH Realized Price)	USD	\$27,274	+4.92%	-11.52%	Bullish	No Change
	<u>Realized Market Returns²</u> (SOPR-1, 7-day moving average)	pp	8.1%	+4.1 pp	+19.61 pp	Bullish	No Change
Market Sentiment	<u>Perpetual Futures Basis</u> (Binance, Estimated, 7-Day Exponential Moving Average)	pp	-0.02%	+0.03 pp	+0.06 pp	Bullish	No Change
	<u>Expirational Futures Basis</u> (Quarterly, All Exchanges, Annualized)	pp	4.55%	+2.12 pp	+3.8 pp	Bullish	No Change

[1] For more information on these metrics and their units of account, please read the Appendix: Glossary of Terms on page 21 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, 2023. Data sourced from [Classnode](#). 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 June 28, 2023. For informational purposes only and should not be considered investment advice or a recommendation to buy, sell, or hold any particular security or cryptocurrency.

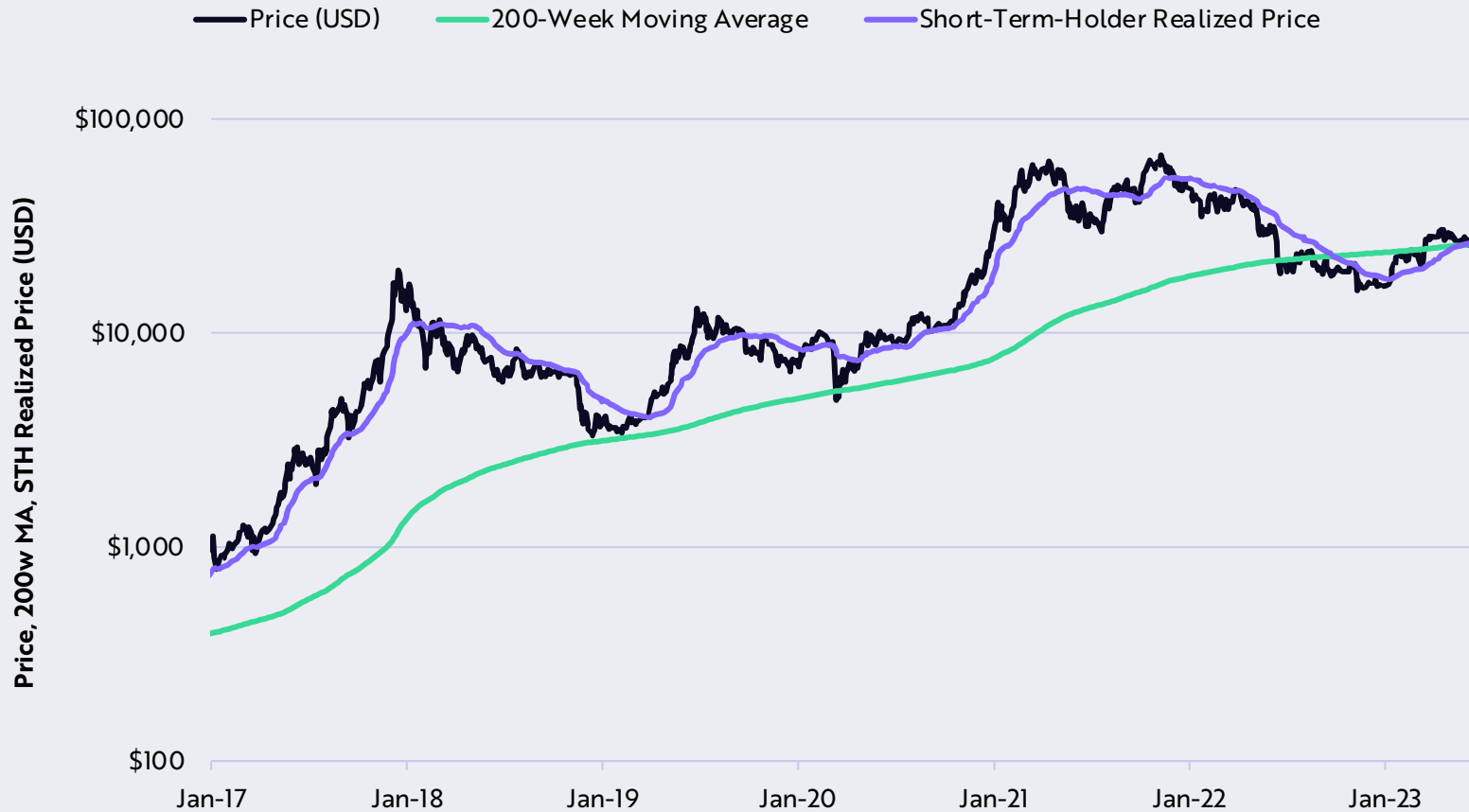
Bitcoin Finds Support From Strong Holders And Improved Institutional Sentiment





In June, Bitcoin's 200-Week Moving Average And Short-Term-Holder Cost Basis Offered Important Supports

Bitcoin 200-Week Moving Average And Short-Term-Holder Cost Basis



ARK'S VIEW: BULLISH

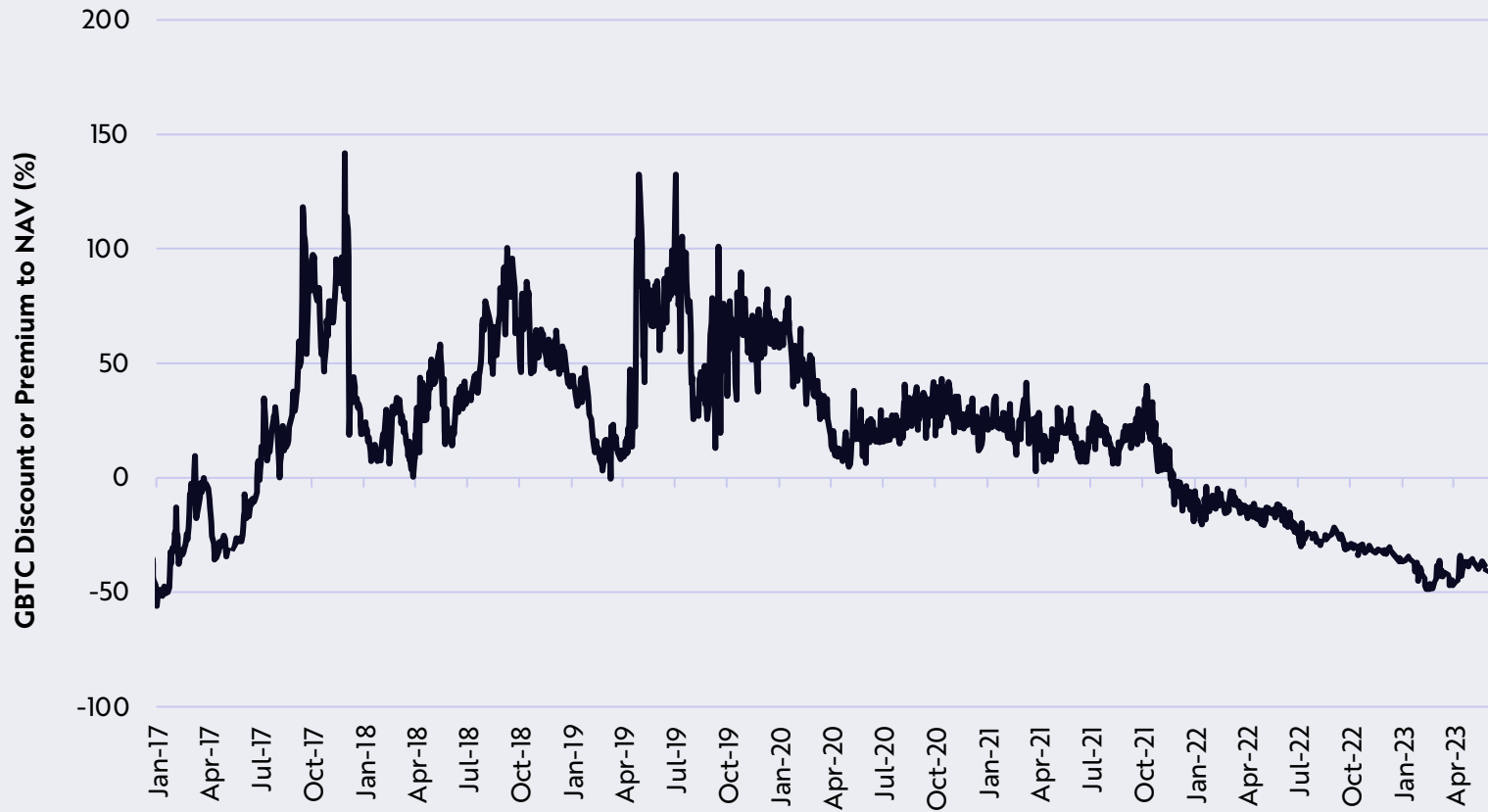
- Bitcoin's price found technical support at its 200-week moving average (\$26,200) and at its short-term-holder cost basis (\$27,465).

Source: ARK Investment Management LLC, 2023. Chart data from [Glassnode](#). Information as of June 30, 2023. 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.



GBTC's Premium Suggests That Sentiment Is Shifting Favorably To A Bitcoin Spot ETF

GBTC Discount or Premium to NAV (%)



ARK'S VIEW: BULLISH

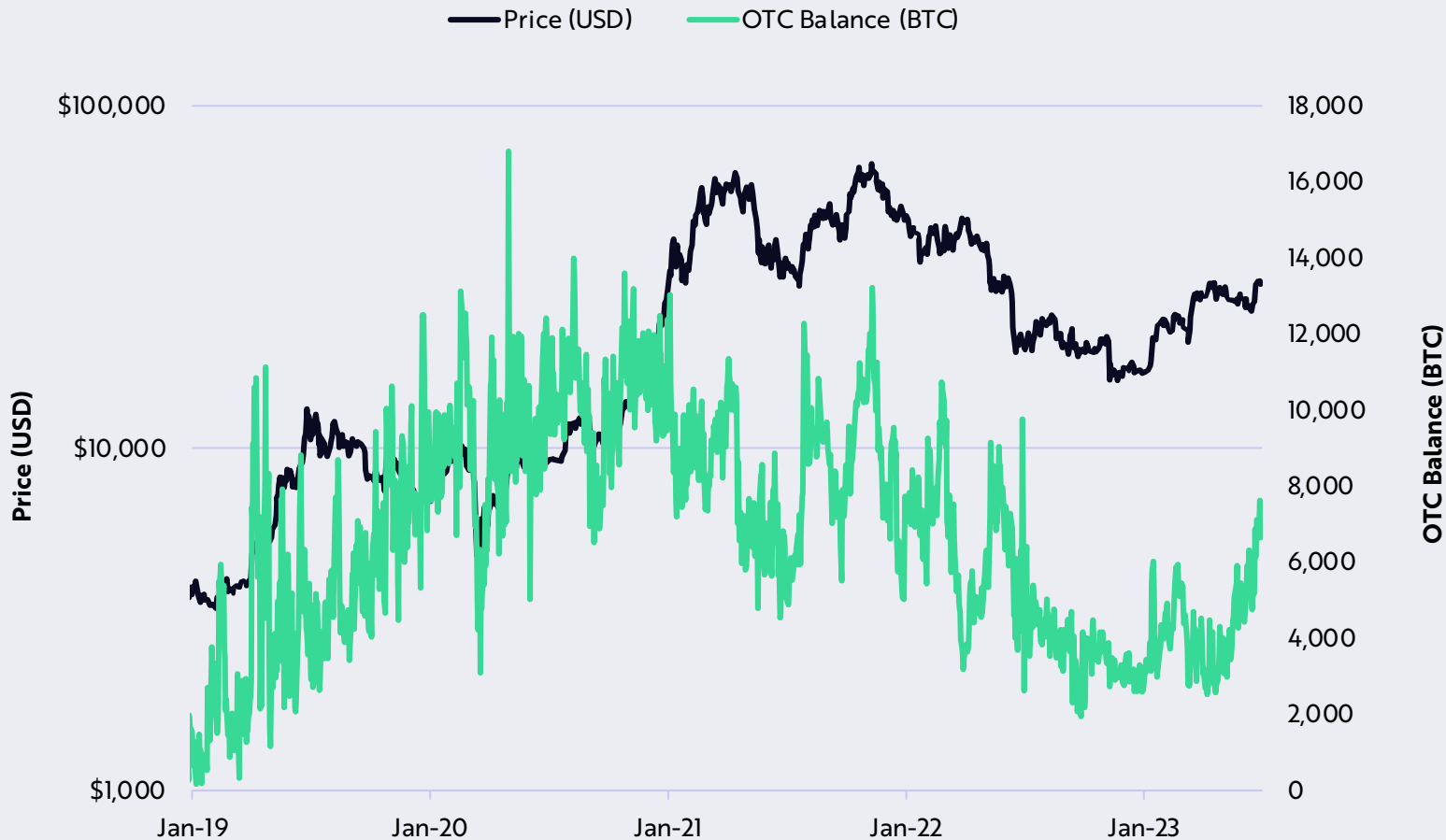
- Since BlackRock filed for its spot Bitcoin ETF, the discount to NAV of the Grayscale Bitcoin Trust (GBTC) has narrowed from -42% to -30%.
- The narrowing discount suggests that the market could be pricing in the approval of a Bitcoin spot ETF—increasing the odds of GBTC's conversion into the same.

Source: ARK Investment Management LLC, 2023. Chart data from YCharts.com. Information as of June 30, 2023. 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 Holdings On OTC Desks Have Been Rising

Bitcoin OTC Balance



ARK'S VIEW: BULLISH

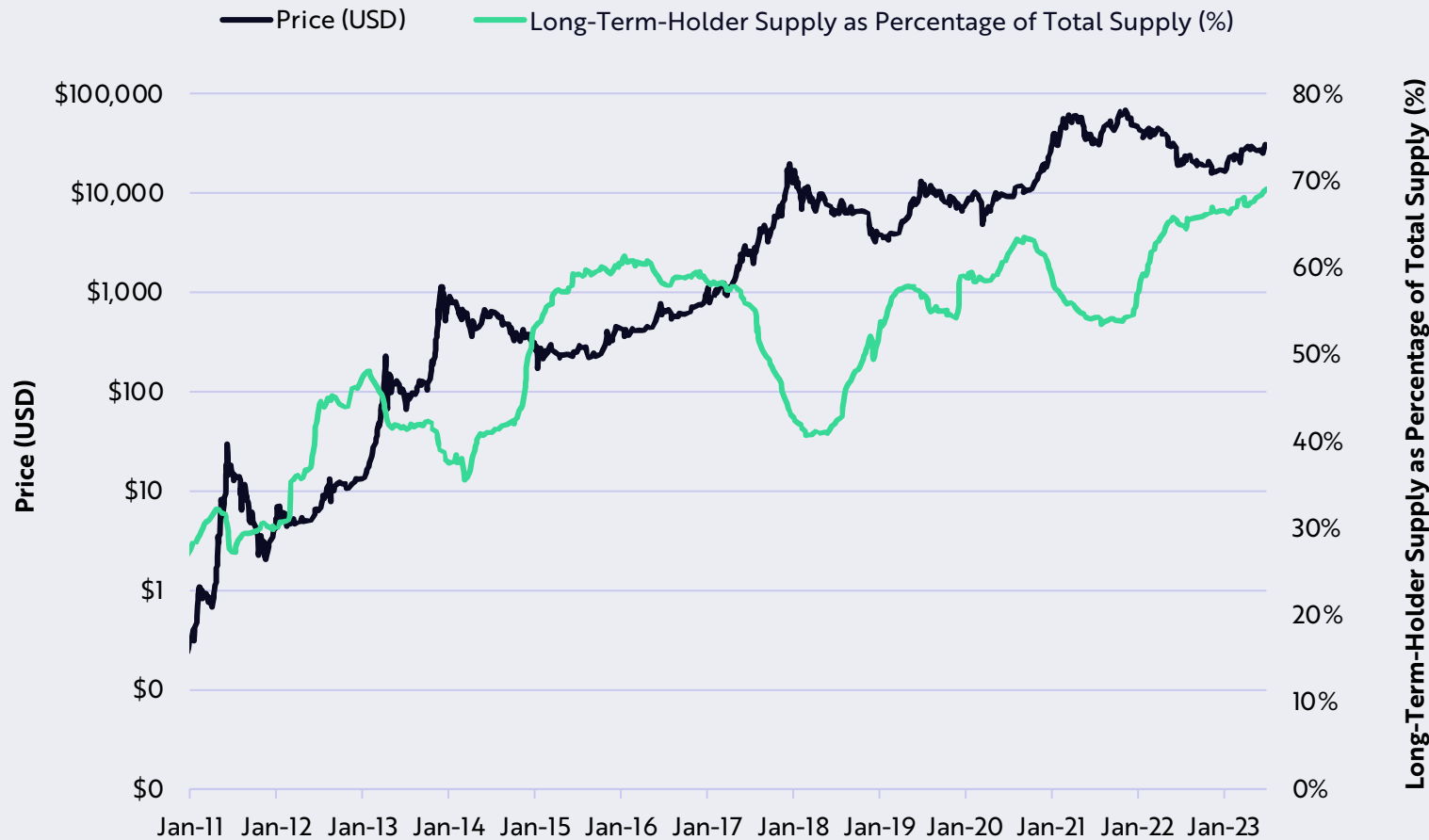
- Bitcoin held on OTC desks has reached levels not seen in roughly one year.
- By the end of the quarter, the OTC bitcoin balance had increased by 60% sequentially.
- In our view, increased balances on OTC desks suggest that institutions and other large capital allocators are focused increasingly on bitcoin.

Source: ARK Investment Management LLC, 2023. Chart data from [Classnode](#). Data may be subject to change over time. Here featured are three OTC desks. Information as of June 30, 2023. 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 Unmoved For One Year Or More Approached 70% Of Total Supply

Bitcoin Long-Term-Holder Supply (%)



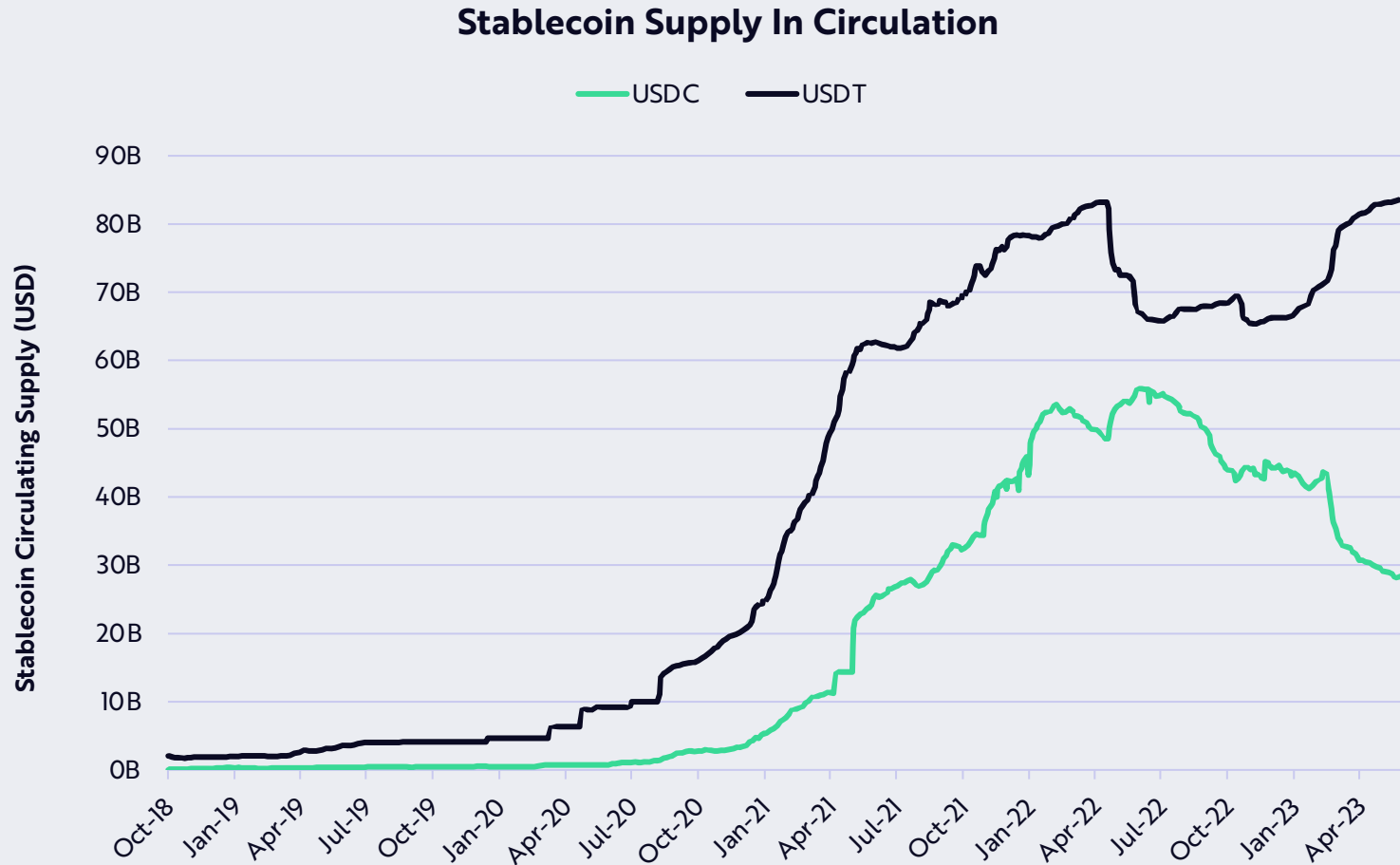
ARK'S VIEW: BULLISH

- Of the 19.4 million bitcoin in circulation, nearly 70% has not moved in at least one year or more, confirming a strengthening holder base.
- Both in relative and absolute terms, the quantity of bitcoin held for one year or more has reached an all-time high.

Source: ARK Investment Management LLC, 2023. Chart data from [Glassnode](#). Data may be subject to change over time since they are entity-adjusted in real time via a machine-learning algorithm. Information as of June 28, 2023. 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.



Tether Supply Reached An All-Time High As USDC Supply Contracted



ARK's VIEW: NEUTRAL

- After gaining share relative to Tether between 2021 and 2022, USDC has ceded share in 2023. USDC supply has dropped 37% year-to-date, while Tether's has increased 25%, hitting an all-time high in June.
- In our view, the trends have diverged in response to the uncertain regulatory environment in the US, which has pushed crypto activity off-shore, and a reaction to the brief de-pegging of USDC during the collapse of Silicon Valley Bank in March. Notably, Tether's share off-shore is much higher than that in the US.
- In our view, due to higher short-term rates, short-term Treasuries are competing with USDC more than Tether. We believe this is because international Tether holders have little access to Treasury Bills.

Source: ARK Investment Management LLC, 2023. Chart first presented in Nic Carter's original tweet on June 12, 2023. https://twitter.com/nic_carter/status/1668245037384073217. Chart data from [Glassnode](https://www.glassnode.com/). Information as of June 30, 2023. 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

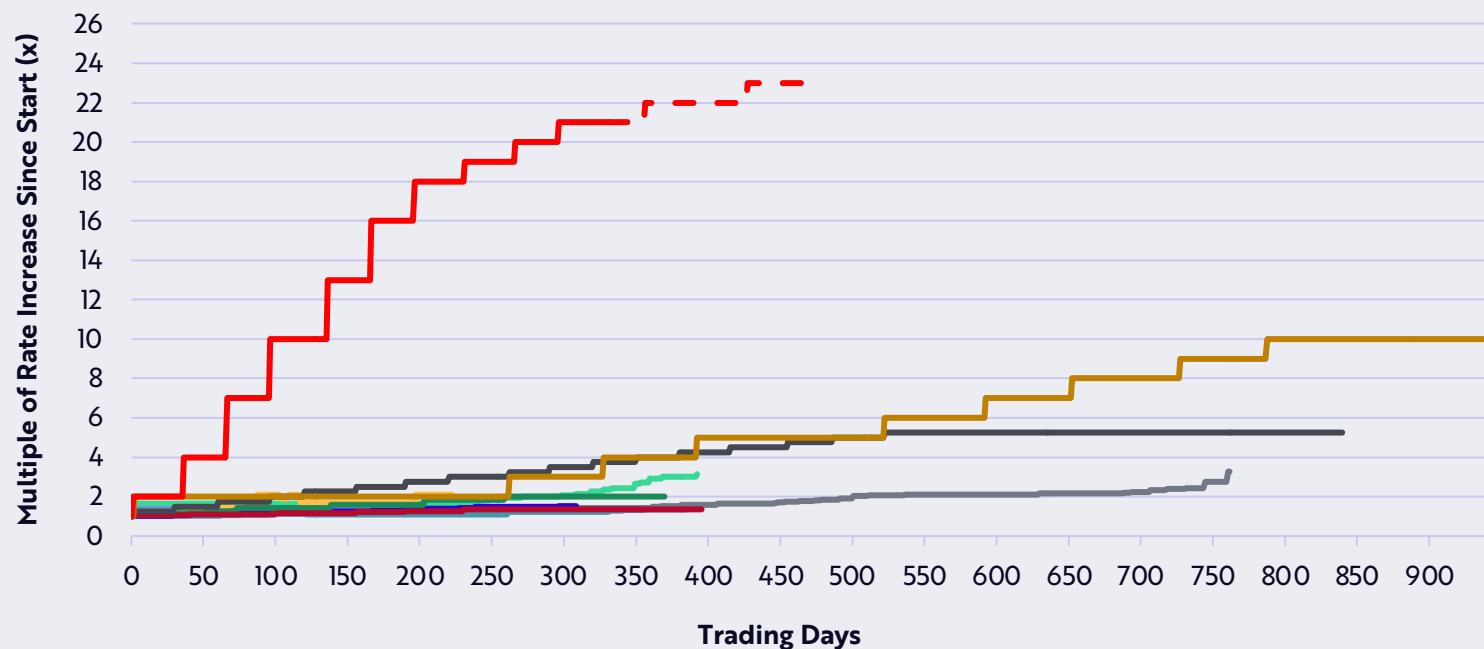
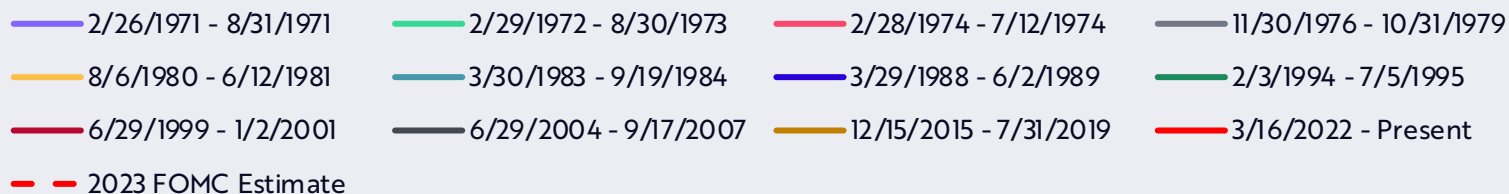
Is The Global Economy Heading Toward Recession?





The Current Tightening Cycle Is Unprecedented In Magnitude

Magnitude of Federal Fund Target Rate Increases Through Tightening Cycles, 1971-Present



ARK'S VIEW: BEARISH

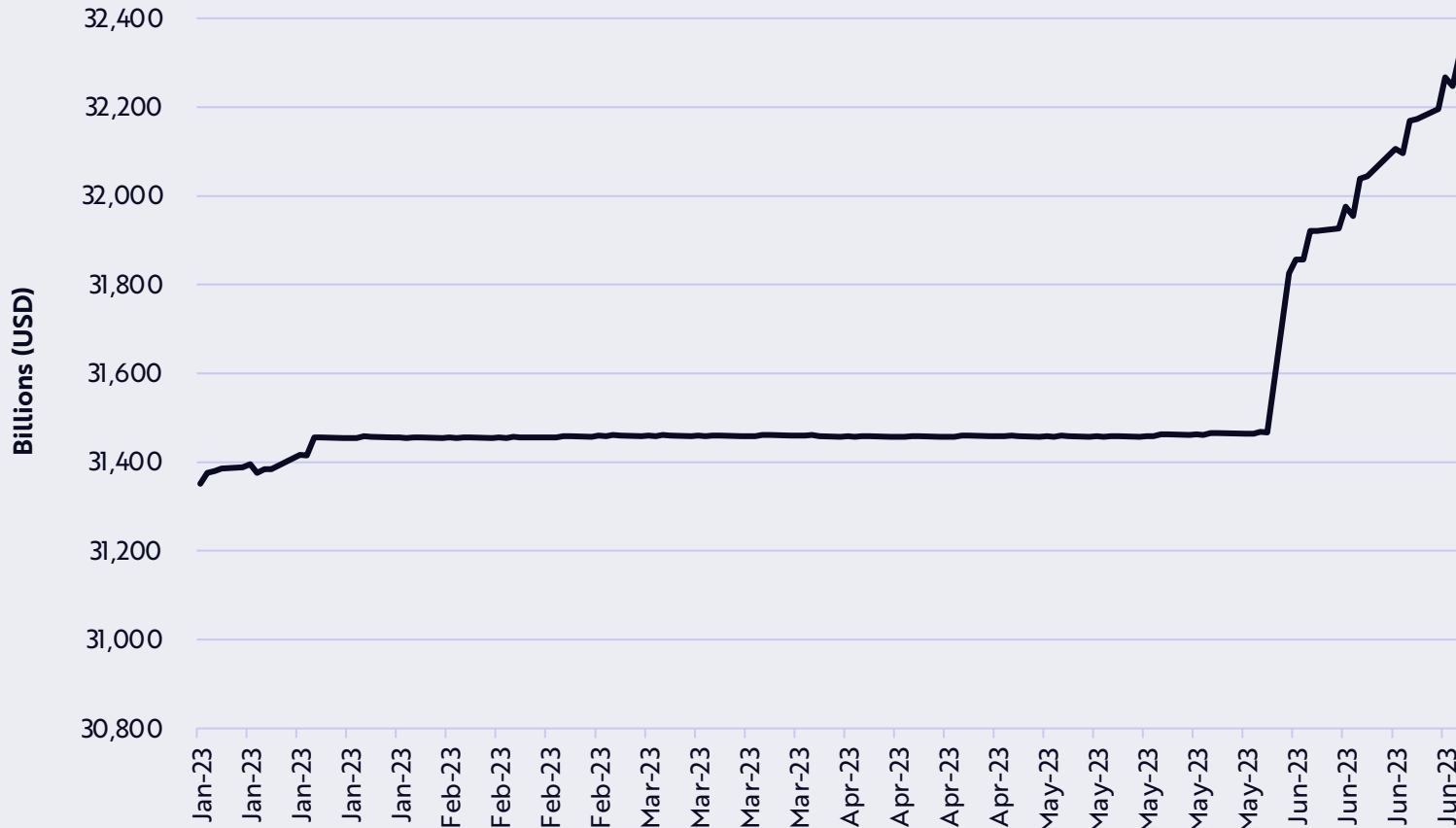
- In roughly one year, the Federal Funds Target Rate surged 21-fold, surpassing all previous tightening cycles, including the one in 1980-1981 that crushed inflation.
- From our perspective, the rapid rise in interest rates created significant strains in regional banking and commercial real estate. We believe additional rate hikes will exacerbate this fragile situation.

Source: ARK Investment Management LLC, 2023. Chart data from MacroBond, FOMC. Information as of June 30, 2023. 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.



What Debt Ceiling?

Total Public Debt Outstanding (YTD)



ARK'S VIEW: NEUTRAL

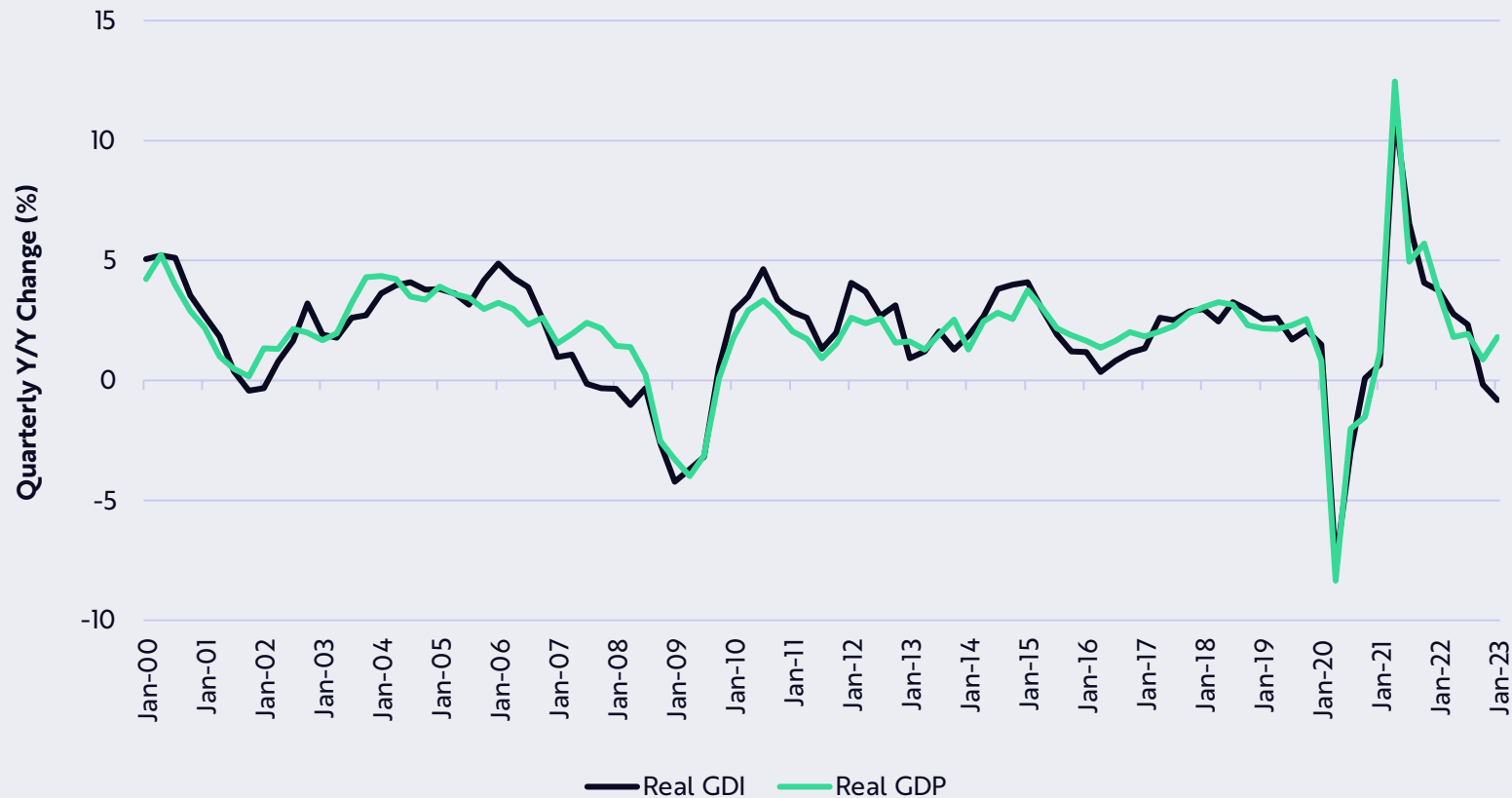
- On June 2, after a highly publicized debate, Congress agreed to push the debt ceiling discussion into 2025.
- Since the agreement, the Federal government has issued ~\$850 billion in debt, which the mainstream media largely have overlooked.
- Debt issuance helps fund continued deficit spending. Government spending positively impacts GDP but burdens the economy with a higher debt service burden and could crowd out future government services.
- Fiscal and monetary policies are at odds.

Source: ARK Investment Management LLC, 2023. Chart data from US Treasury. Information as of June 30, 2023. 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.



Gross Domestic Income (GDI) Flashes Recession

Gross Domestic Product (Expenditure) vs.
Gross Domestic Income (Income)



ARK'S VIEW: BEARISH

- In 2022, Gross Domestic Product (GDP) declined for two consecutive quarters, a technical recession. Now, Gross Domestic Income (GDI)—which should equal GDP over time—has declined sequentially.
- In theory, GDP and GDI should be equal because every dollar earned as income also should be spent on good/services (and vice versa). In practice, however, a variety of factors can lead to differences between the two.
- The divergence in year-over-year growth rates raises questions about whether revisions will increase GDI or decrease GDP. Our view is the latter.

Source: ARK Investment Management LLC, 2023. Chart data from MacroBond. Information as of June 30, 2023. 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.



A Contraction In New Manufacturing Orders Signals That Recession Could Be Looming

Mean New Orders Value, Fed Manufacturing Surveys



ARK'S VIEW: BEARISH

- The Federal Reserve District Banks of Dallas, New York, Philadelphia, Richmond, and Kansas publish monthly manufacturing surveys on business activity in their respective districts.
- New orders, a key component of each index, are contracting across all surveys, a signal that recession could be looming.

Source: ARK Investment Management LLC, 2023. Chart data from MacroBond. Information as of June 30, 2023. 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 04

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.

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

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.

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

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.

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.

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.

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

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 and 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.



Glossary Of Terms

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.

Supply in Profit (Percentage):

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.

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.



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