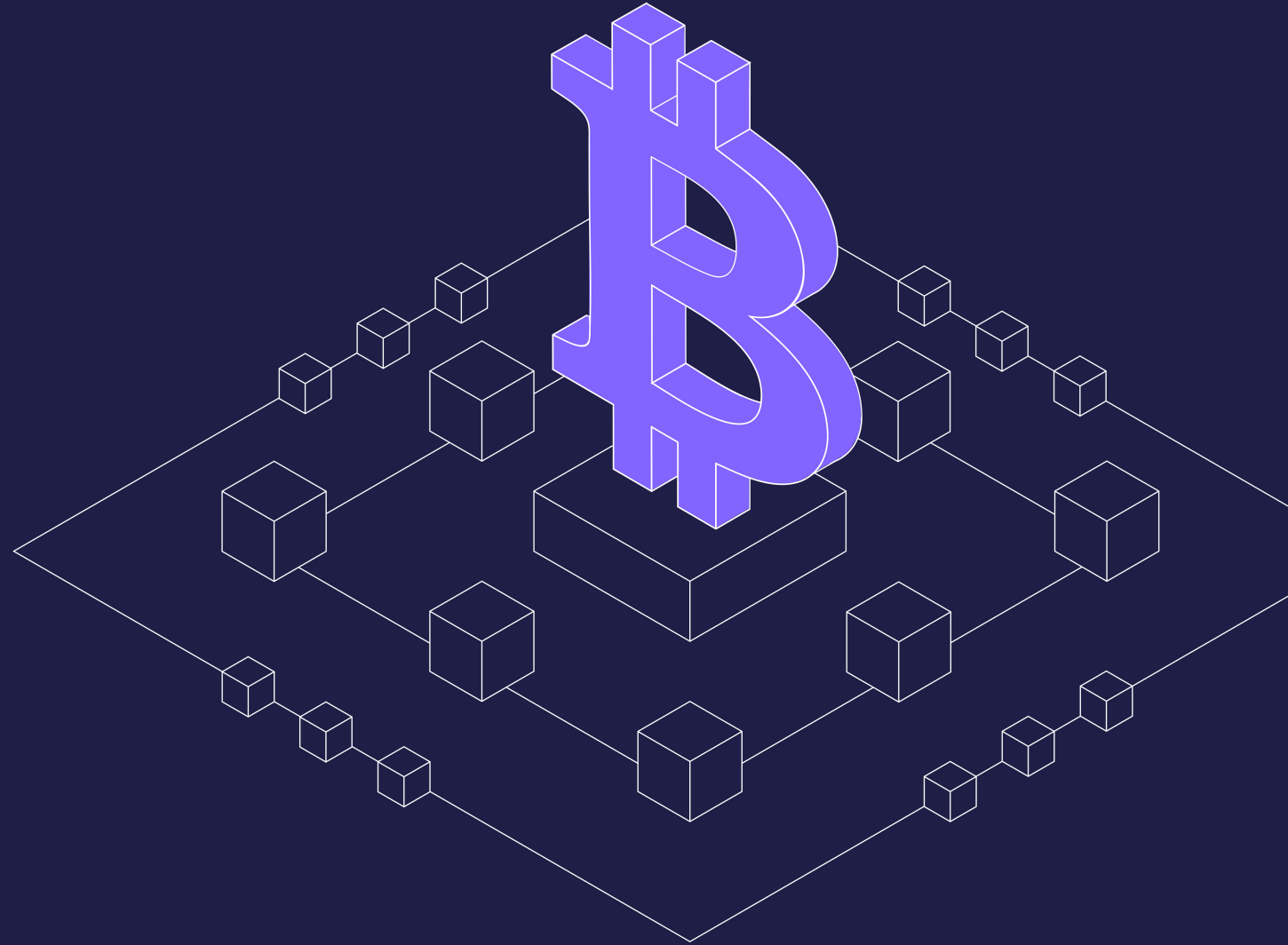




As of May 31, 2024

# THE BITCOIN MONTHLY

ANOTHER CONSOLIDATION  
NEAR ALL-TIME HIGHS



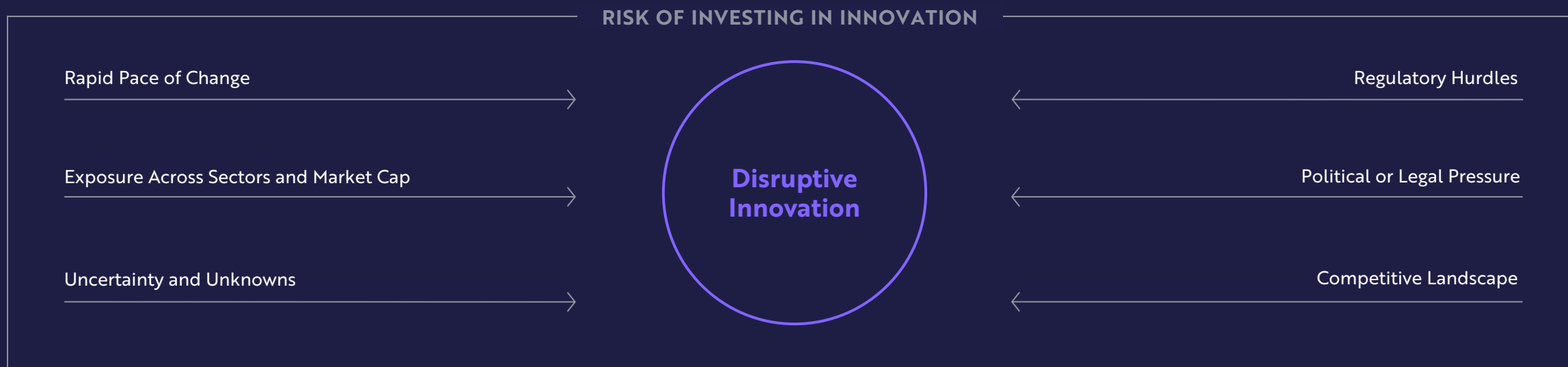
**For Informational Purposes Only.** ARK Investment Management LLC, 2024 This is not investment advice or a recommendation in relation to any named particular securities or cryptocurrencies and no warranty or guarantee is provided. Any references to particular securities or cryptocurrencies are for illustrative purposes only. The reader should not assume that an investment identified was or will be profitable. Certain information was obtained from sources that ARK believes to be reliable; however, ARK does not guarantee the accuracy or completeness of any information obtained from any third party. Forecasts are inherently limited and cannot be relied upon. **PAST PERFORMANCE IS NOT INDICATIVE OF FUTURE PERFORMANCE; FUTURE RETURNS ARE NOT GUARANTEED.**



## RISKS OF INVESTING IN INNOVATION

Please note: Companies that ARK believes are capitalizing on disruptive innovation and developing technologies to displace older technologies or create new markets may not in fact do so. ARK aims to educate investors and seeks to size the potential investment opportunity, 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 certain innovation areas.

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)**



## SECTIONS

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### **Market Summary**

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### **Recovery In BTC's On-Chain Health With The Approval Of ETH ETFs**

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### **Macro Pressures And Consumer Adjustments**

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### **Appendix: Glossary Of Terms**

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Section 01

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# Market Summary





# Bitcoin's Price Continues To Consolidate Near All-Time Highs

## Recovery In BTC's On-Chain Health With The Approval Of ETH ETFs

- Month-over-month, bitcoin's price increased 11.3% to \$67,472. After revisiting its short-term-holder (STH) cost basis during May, bitcoin's price increased 15.7%.
- The ETH/USD and ETH/BTC price pairs increased 24.8% and 12.1%, respectively, upon the SEC's approval of stock exchange rule change proposals (Form 19b-4) that clear the way for potential registration approvals (Form S-1) of the individual ETFs that are required for the ETFs to begin trading. Currently it is unclear when, or if, the Form S-1s will be approved.
- May was the best month for the ETH/BTC pair since October 2022.
- Long-term-holder (LTH) supply returned to positive flows as measured by its rolling 30-day change.
- Bitcoin's yearly ratio of profits vs. losses remains neutral.

## Macro Pressures And Consumer Adjustments

- Both fast-food chain sales and home sales declined, signaling economic weakness.
- The ratio of job openings to unemployed people decreased significantly, dropping to pre-pandemic levels.

## ARK'S KEY TAKEAWAYS

- Month-over-month, bitcoin's price increased 11.3% to \$67,472.
- When the U.S. Securities and Exchange Commission (SEC) approved Form 19b-4 related to spot ETH ETFs, the ETH/USD and ETH/BTC pairs increased 24.8% and 12.1%, respectively.
- Bitcoin's long-term-holder supply resumed net inflows on a 30-day basis.
- Consumer spending power is weakening as labor markets loosen.



## News Of The Month

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[State of Wisconsin Buys Nearly \\$100-Million Worth of BlackRock Spot Bitcoin ETF](#)

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[Izzy Englander's Millennium, Paul Singer's Elliott Among Bitcoin ETF Holders](#)

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[Crypto Lender Genesis to Return \\$3 Billion to Customers in Bankruptcy Wind-Down](#)

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[Grayscale Investments Announces CEO Transition](#)

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[Trump Campaign Starts Taking Cryptocurrency Donations](#)

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[US House Approves Crypto FIT21 Bill With Wave of Democratic Support](#)

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[US House of Representatives Pass Republican-Led Anti-CBDC Bill Along Partisan Lines](#)

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[SEC Approves 8 Ethereum ETFs](#)

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[Biden Campaign Ramps Up Crypto Industry Outreach in Surprising Tone 'Shift'](#)

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# Bitcoin's Long-Term-Holder Supply Is Recovering

	Bitcoin Metrics <sup>1</sup>	Unit	May 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)	362.4	-4.2%	+64.3%	Bullish	No Change
	<u>Miner Revenue</u> (7-Day Moving Average)	USD (Millions)	32.5	-4.4%	+18.7%	Bullish	↑
Network Usage	<u>Active Owners</u> <sup>2</sup> (Active Entities, 7-Day Moving Average)	Thousands	193	-22.8%	-20.2%	Bearish	↓
	<u>Transaction Volume</u> <sup>2</sup> (7-Day Moving Average)	BTC (Thousands)	86.4	-19.1%	-9.1%	Bearish	↓
Holder Behavior	<u>Long-Term-Holder Supply</u> <sup>2</sup> (Coins Held for 155 Days+)	BTC (Millions)	14.08	+0.68%	-1.6%	Neutral	↑
	<u>Locked Supply</u> <sup>2</sup> (Illiquid Supply)	BTC (Millions)	15.2	+0.5%	+4.5%	Bullish	No Change
	<u>Time-Weighted Turnover</u> <sup>2</sup> (Coindays Destroyed, 7-Day Median)	Coindays (Millions)	7.5	-13.1%	-31%	Bullish	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 May 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 Cost Bases Remained Healthy As Futures Contracts Overheated

	Bitcoin Metrics <sup>1</sup>	Unit	May 2024	1M Change	1Y Change	ARK's View	Upgrade/Downgrade <sup>3</sup>
Long-Term Valuation	<u>Market Cost Basis</u> (Realized Price)	USD	\$30,026	+4.1%	+48.6%	Bullish	No Change
	<u>Percent Supply In Profit</u>	pp	90.7	+83	+26.1	Neutral	No Change
Short-Term Valuation	<u>Short-Term-Holder Cost Basis<sup>2</sup></u> (STH Realized Price)	USD	\$62,569	+4.9%	+139.3%	Bullish	No Change
	<u>Realized Market Returns<sup>2</sup></u> (SOPR-1, 7-day moving average)	pp	10.5%	+4	+6.6	Neutral	↓
Market Sentiment	<u>Perpetual Futures Basis</u> (Binance, Estimated)	pp	0.06%	+0.1	+0.1	Bearish	↓↓
	<u>Expirational Futures Basis</u> (Quarterly, All Exchanges, Annualized)	pp	13.1%	+6.1	+10.2	Neutral	↓

[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 May 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.

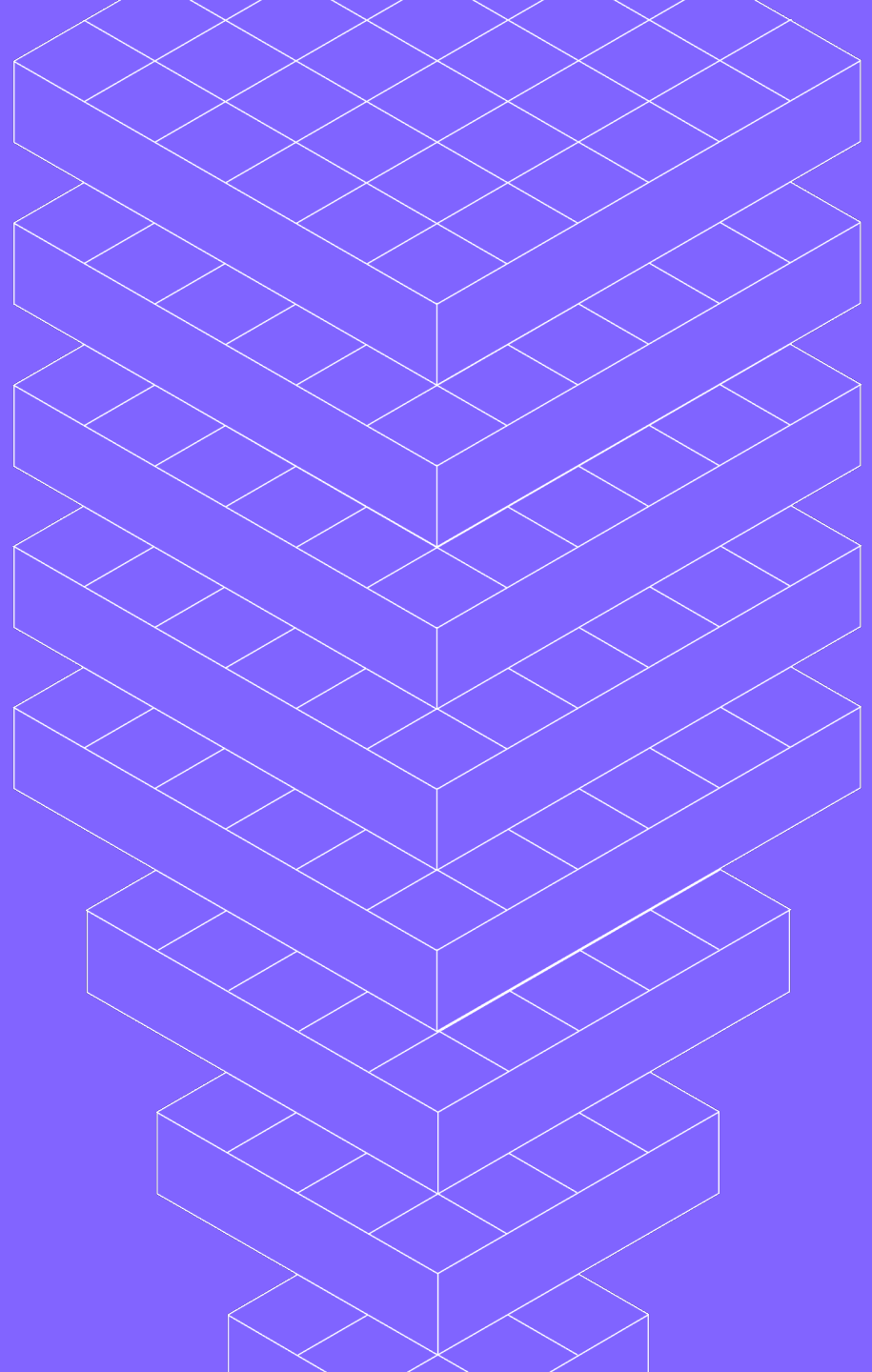




## Section 02

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# Recovery In BTC's On-Chain Health With The Approval Of ETH ETFs





# After Hitting Support At Its Short-Term-Holder Cost Basis, The Price Of Bitcoin Increased 15.7%

## Bitcoin Mean Reversion



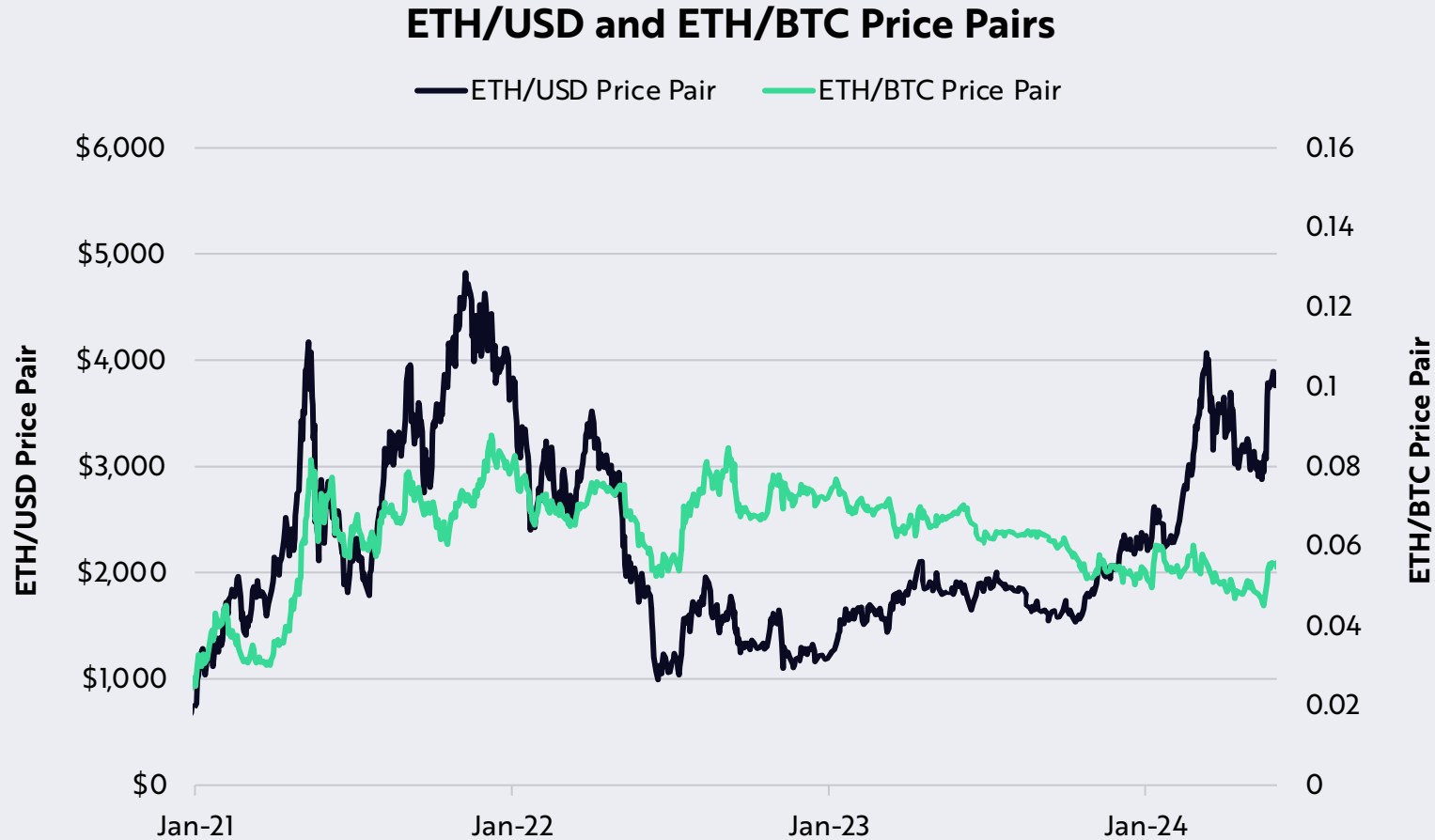
### ARK'S VIEW: BULLISH

- Month-over-month, bitcoin's price increased 11.3% to \$67,472.
- After revisiting its short-term-holder (STH) cost basis during May, bitcoin's price increased 15.7%
- Bitcoin's price support levels are:
  - *STH cost basis*: \$62,570, or 7.2% below its month-end price.
  - *200-day moving average*: \$54,140, or 19.7% below its month-end price.
  - *On-chain mean*: \$44,098, or 34.6% below its month-end price.

Source: ARK Investment Management LLC, 2024. Chart data from [Glassnode](#). Information as of May 31, 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.



# The ETH/BTC Price Pair Had Its Best Month Since 2022 As The SEC Approved Ethereum Spot ETFs



## ARK'S VIEW: BULLISH

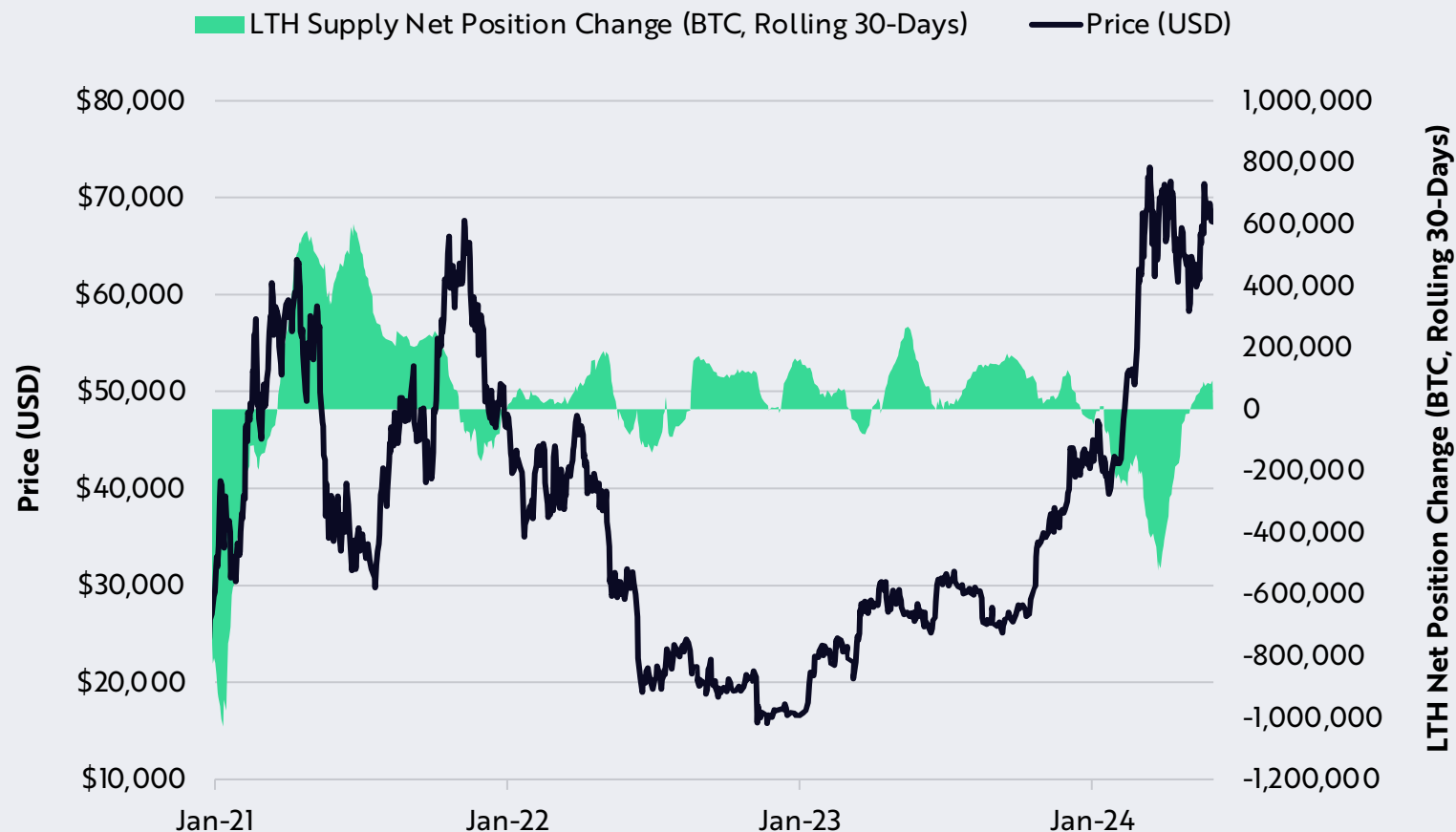
- During May, the ETH/USD and ETH/BTC pairs increased 24.8% and 12.1%, respectively.
- The U.S. Securities and Exchange Commission (SEC) approved Form 19b-4 related to spot ETH ETFs on May 23, 2024.
- May was ETH's best month relative to bitcoin since October 2022.

Source: ARK Investment Management LLC, 2024. Chart data from [Glassnode](#). Information as of May 31, 2024. 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 Long-Term-Holder Supply Reverted To An Increase On A 30-Day Basis

## Bitcoin Long-Term-Holder (LTH) Net Position Change



### ARK'S VIEW: BULLISH

- The rolling 30-day change of long-term-holder (LTH) supply turned positive at 96,417 bitcoin at the end of May.
- LTH supply is defined as bitcoin not moved for 155 days or more.
- Net inflows at the end of May contrasted favorably with the net outflows of 424,408 bitcoin at the end of March when the bitcoin price was at a similar level.

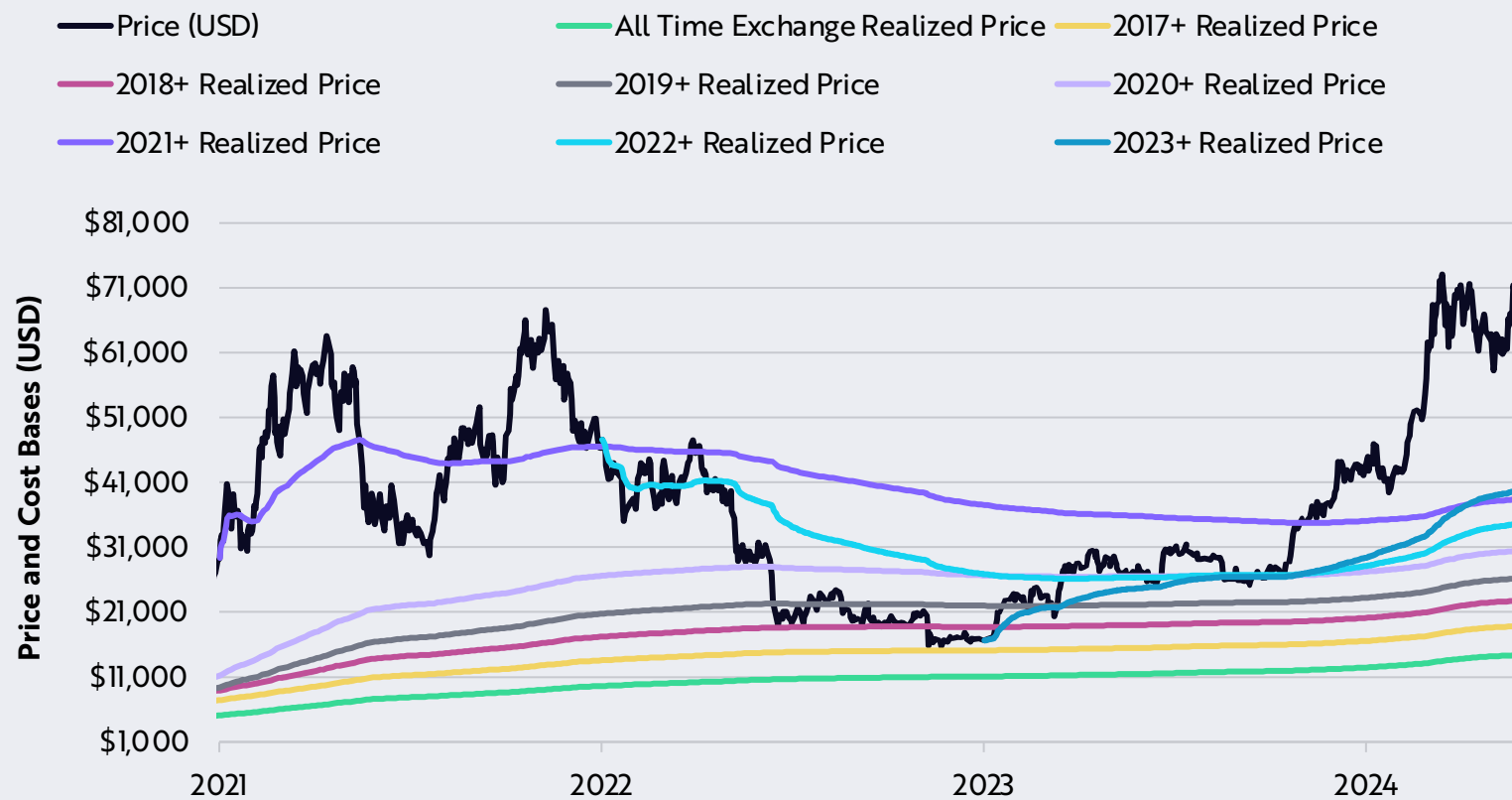
Source: ARK Investment Management LLC, 2024. Chart data from [Glassnode](#). Information as of May 31, 2024. For more information on certain terms, please read our Glossary Of Terms in the Appendix of this report. For informational purposes only and should not be considered investment advice or a recommendation 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 Price Surpassed Its Exchange Withdrawal Cost Bases Of The Last Seven Years

## Bitcoin Cost Bases by Average Withdrawal Price per Year

(ITD and Since 2017+)



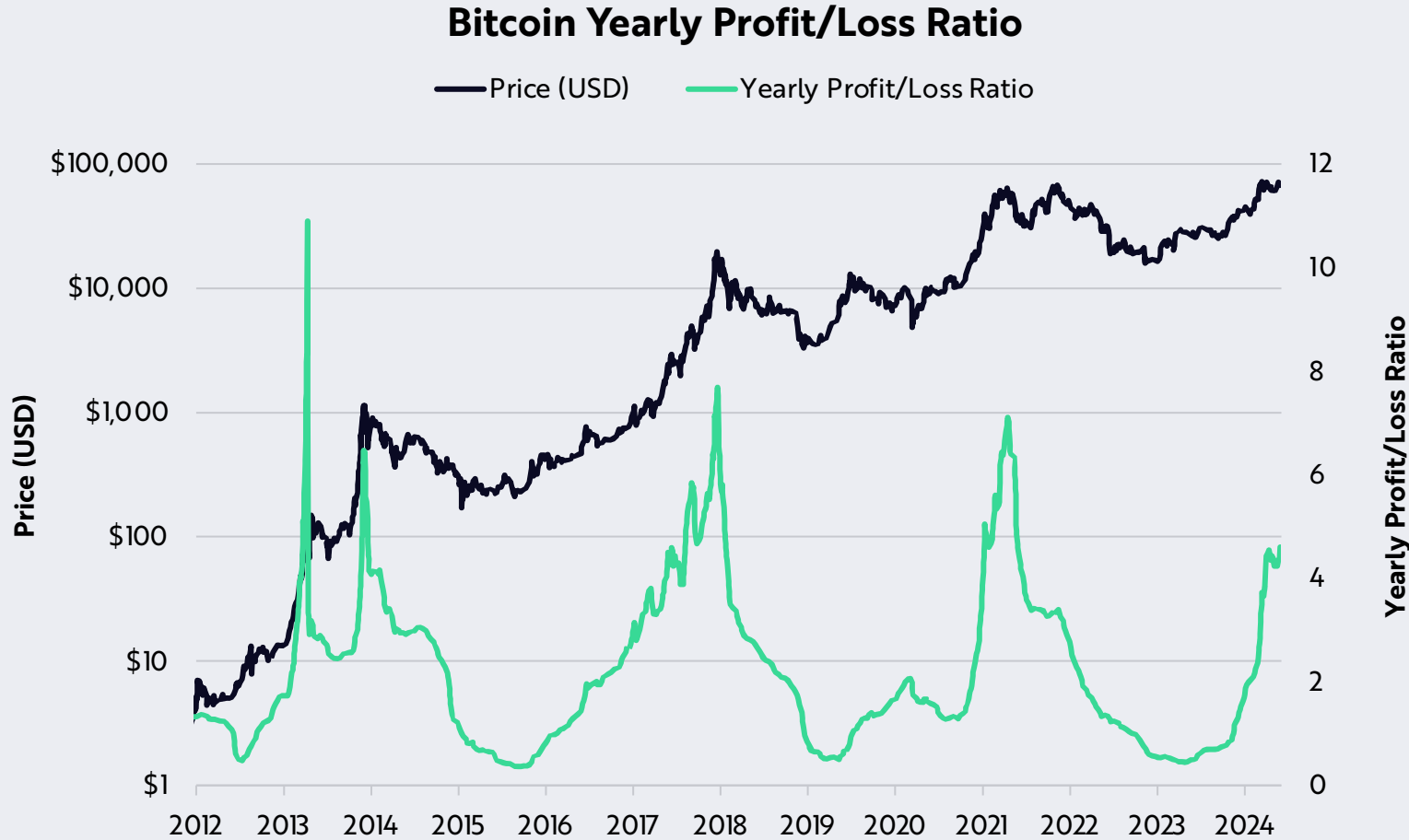
### ARK'S VIEW: BULLISH

- Market participants who bought bitcoin between 2017 and 2023 and held are in a profitable position.
- When comparing cost bases to price, their returns would range from ~69% to ~368%.
- The average withdrawal cost bases are the volume-weighted average prices (VWAPs) of the flows on centralized exchanges during the associated time periods.

Source: ARK Investment Management LLC, 2024. Chart data from [Glassnode](#). Information as of May 31, 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 Yearly Profit/Loss Ratio Is Neutral Relative To Prior Bullish Cycles



### ARK'S VIEW: NEUTRAL

- On an annualized basis, the ratio of realized profits to losses in the Bitcoin network closed May at 4.6.
- In prior bull markets, the ratio was ~6.4 or more at global tops.

Source: ARK Investment Management LLC, 2024. Chart data from [Glassnode](#). Information as of May 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. Forecasts are inherently limited and cannot be relied upon. Past performance is not indicative of future results.



## Section 03

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# Macro Pressures And Consumer Adjustments





# The US Labor Market Continues To Loosen

## Job Openings to Number of Unemployed People



### ARK'S VIEW: NEUTRAL

- JOLTS Job Openings were lower than expected and the prior month was revised down.
- The ratio of job openings to unemployed people has dropped to pre-COVID levels.
- JOLTS data and persistent downward revisions to nonfarm payroll employment explain why the quit rate is falling.
- If the unemployment rate continues to increase, the probability of lower interest rates will likely rise.

Source: ARK Investment Management LLC, 2024. Chart data from Macrobond. Information as of May 31, 2024. 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.

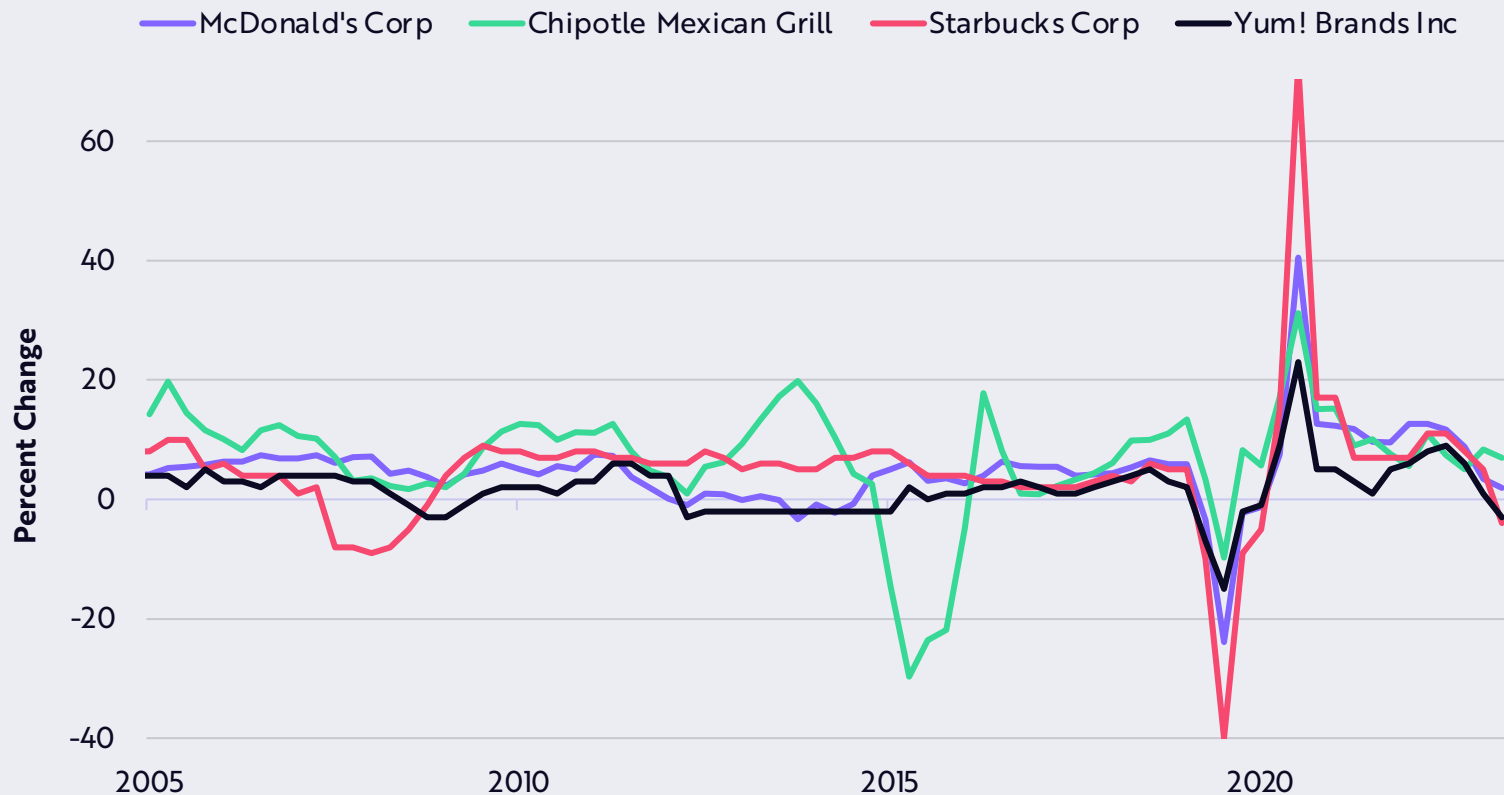




# Consumers Are Shifting To Budget-Friendly Options

## Restaurants Same Store Sales

(Year-Over-Year Percent Change)



### ARK'S VIEW: NEUTRAL

- Same-store sales growth rates are declining for major quick-service restaurants.
- High price levels that bolstered revenues are likely to reverse, putting downward pressure on inflation.
- Companies like Starbucks and McDonald's already have launched discount campaigns.

Source: ARK Investment Management LLC, 2024. Chart data from Bloomberg. Information as of May 31, 2024. 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.



# Higher-For-Longer Rates Continue To Depress Home Sales

## Pending Home Sales Index



### ARK'S VIEW: BEARISH

- Pending home sales dropped back toward COVID lows and well below levels seen during the Global Financial Crisis.

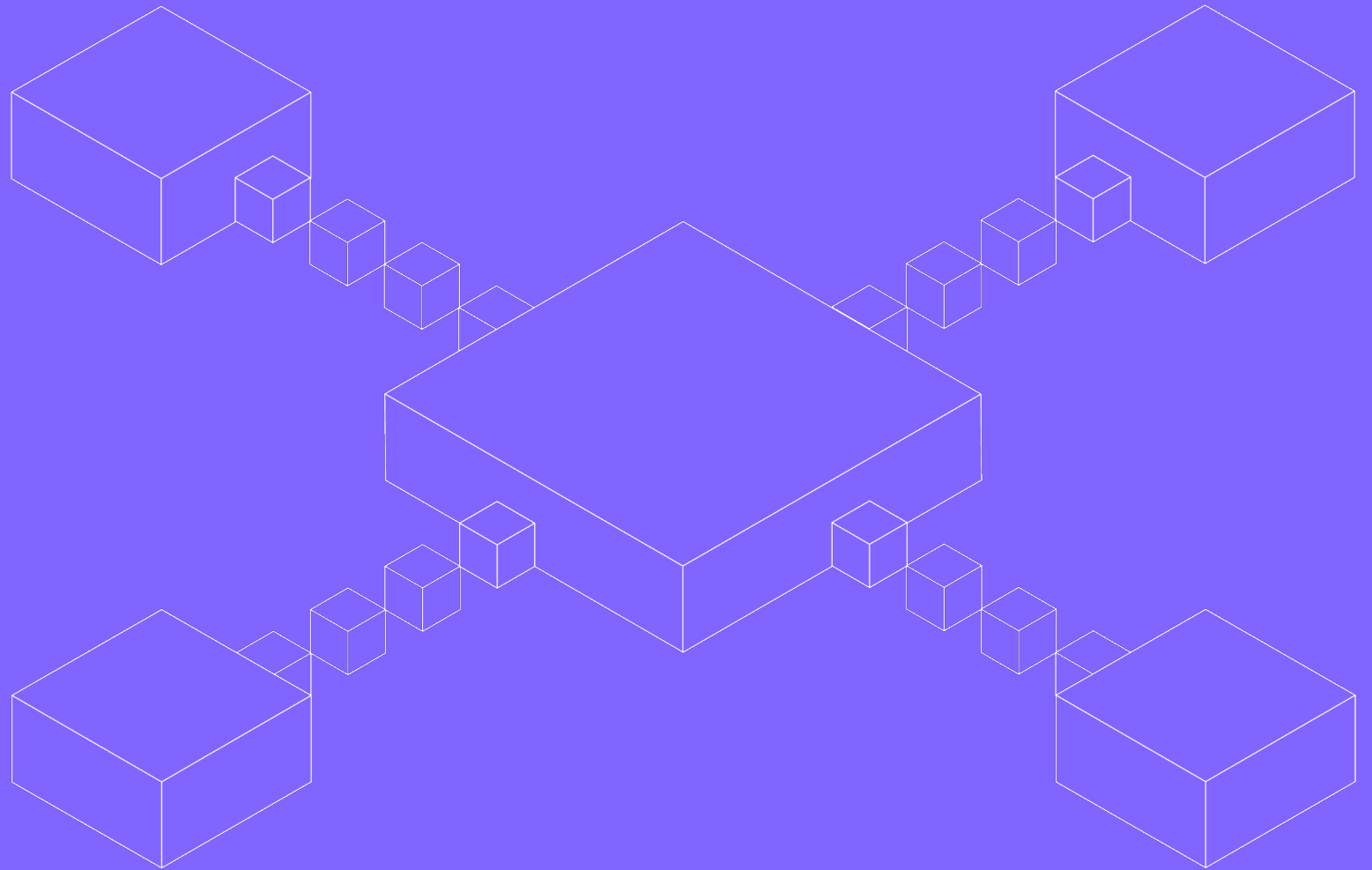
Source: ARK Investment Management LLC, 2024. Chart data from Macrobond. Information as of May 31, 2024. For more information on certain terms, please read our Glossary Of Terms in the Appendix of this report. For informational purposes only and should not be considered investment advice or a recommendation 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.



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.

**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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