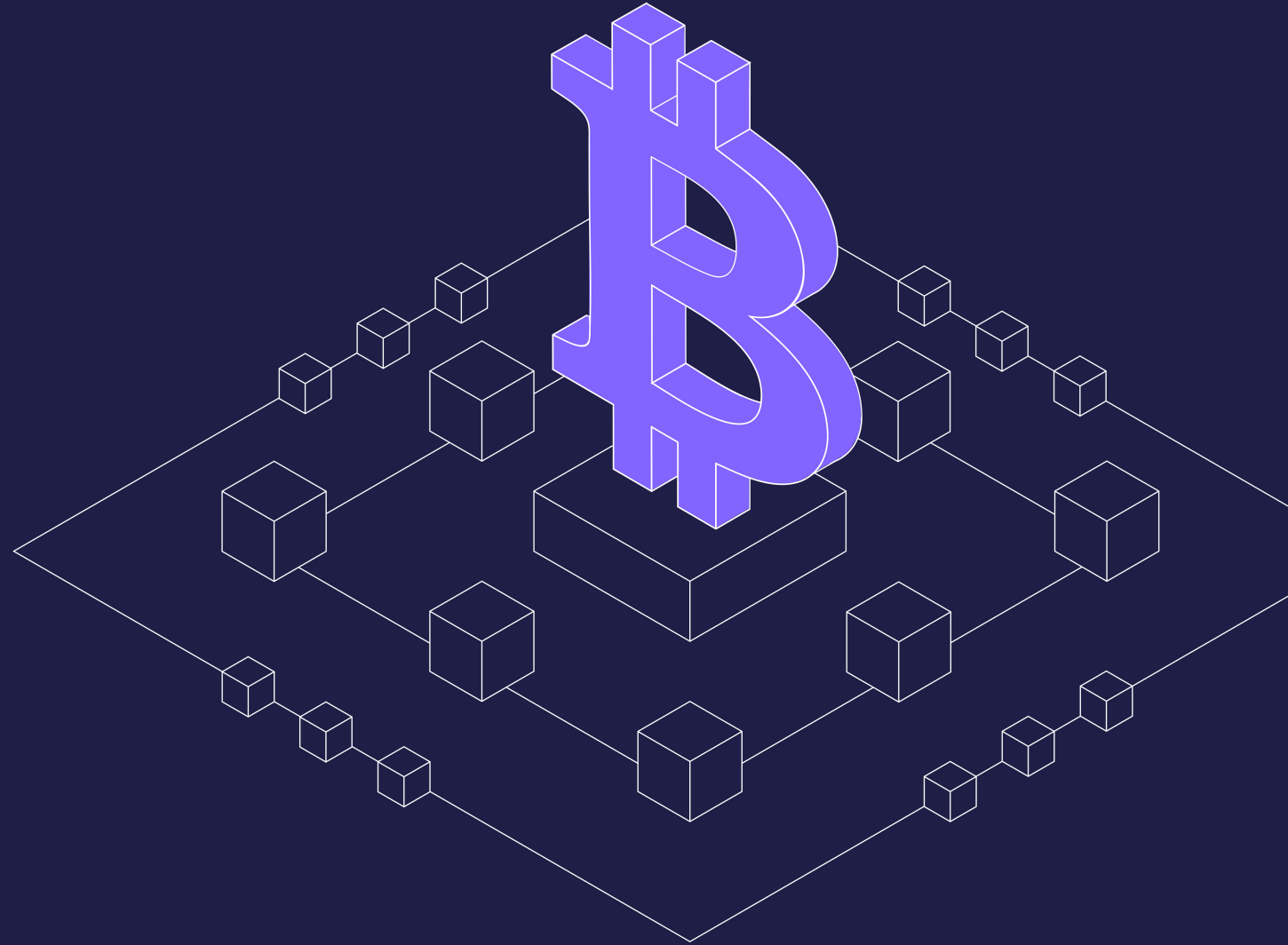




August 2024

THE BITCOIN MONTHLY

MAKE-OR-BREAK MOMENT?



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.**



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

01

Market Summary

02

Bitcoin's Fundamentals Are Bullish Structurally, Though Further Losses Could Accelerate Technical Selling Pressure

03

The U.S. Dollar Begins To Weaken As Employment Falters And Inflation Drops Below A Key Level

04

Appendix: Glossary Of Terms



Section 01

Market Summary





Bitcoin Needs Some Upside To Maintain Its Market Structure

Bitcoin Needs Some Upside To Maintain Its Bullish Uptrend

- During August, bitcoin's price decreased 8.7% to \$58,972. Late in the month, it was unable to cross above either its 200-day moving average or its short-term-holder cost basis at \$63,693 and \$63,245, respectively. Currently, bitcoin's most important price supports are \$52,000 and \$46,000.
- Measured against bitcoin's rolling yearly highs, the percent drawdown in its price in 2024 is consistent with bitcoin's historical corrections in bullish primary trends.
- By the end of August, the estimated cost basis of US spot bitcoin ETF investors was above bitcoin's price, suggesting that, on average, ETF holders are facing losses.
- Bitcoin's MVRV Z-score—an indicator comparing bitcoin's market cap to its cost basis cycle-to-cycle—has been above its mean since inception, confirming its secular uptrend for now.

The U.S. Dollar Weakens As Employment Falters And Inflation Drops Below Key Level

- The U.S. Dollar Index (DXY) approached its 200-week moving average amid a significant downward revision in employment data.
- Consumer price inflation dropped below 3% year-over-year, while leading indicators point to continued economic weakness.

ARK'S KEY TAKEAWAYS

- During August, bitcoin's price decreased 8.7% to \$58,972. Late in the month, it did not cross back above either the 200-day moving average or the short-term-holder cost basis.
- Bitcoin remains in a structural bull market, though ETF holders appear on average to be holding at a loss.
- Economic indicators like declines in the dollar, employment, and inflation point to broad macroeconomic weakness.

Source: ARK Investment Management LLC, 2024. Data from Glassnode unless otherwise specified. Data valid as of August 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

[Genesis Completes Bankruptcy Restructuring, Begins Distributing \\$4 Billion in Crypto and Cash](#)

[BlackRock, Nasdaq Make the Push for Options on Spot Ethereum ETF](#)

[FTX, Alameda Ordered to Pay \\$12.7B to Creditors by U.S. Judge](#)

[Goldman Sachs Reports \\$418 Million in Spot Bitcoin ETF Holdings as of June 30](#)

[Morgan Stanley Reveals \\$187 Million Position in BlackRock's Spot Bitcoin ETF, Nearly Sells Out of GBTC in Q2](#)

[SEC Talks With ETF Issuers Over Concerns of Solana Being a Security Preceded Cboe Removing 19b-4s](#)

[Mt. Gox Moves Over \\$700 Million Worth of Bitcoin to Unknown Wallet](#)

[DCG Is Debt-Free, Minus Its \\$1.1-Billion Promissory Note to Genesis, as of June](#)



At An Important Price Point, Bitcoin's On-Chain Health Remains Net Positive

	Bitcoin Metrics ¹	Unit	August 2024	1M Change	1Y Change	ARK's View	Upgrade/Downgrade ³
Network Security	<u>Mining Difficulty</u>	Exahash/sec ¹ (Thousands)	384.2	+60.8%	-1.3%	Neutral	↓
	<u>Miner Revenue</u> (7-Day Moving Average)	USD (Millions)	27.4	-17.8%	+19.5%	Neutral	↓
Network Usage	<u>Active Owners</u> ² (Active Entities, 7-Day Moving Average)	Thousands	194.5	-3.8%	-33.6%	Neutral	No Change
	<u>Transaction Volume</u> ² (7-Day Moving Average)	BTC (Thousands)	111.3	-24.5%	-2.3%	Bearish	↓↓
Holder Behavior	<u>Long-Term-Holder Supply</u> ² (Coins Held for 155 Days+)	BTC (Millions)	14.05	+3.3%	-0.23%	Bullish	↑
	<u>Locked Supply</u> ² (Illiquid Supply)	BTC (Millions)	14.5	+0.58%	+1.82%	Bullish	No Change
	<u>Time-Weighted Turnover</u> ² (Coindays Destroyed, 7-Day Median)	Coindays (Millions)	7.8	-33.5%	-12.2%	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 August 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.

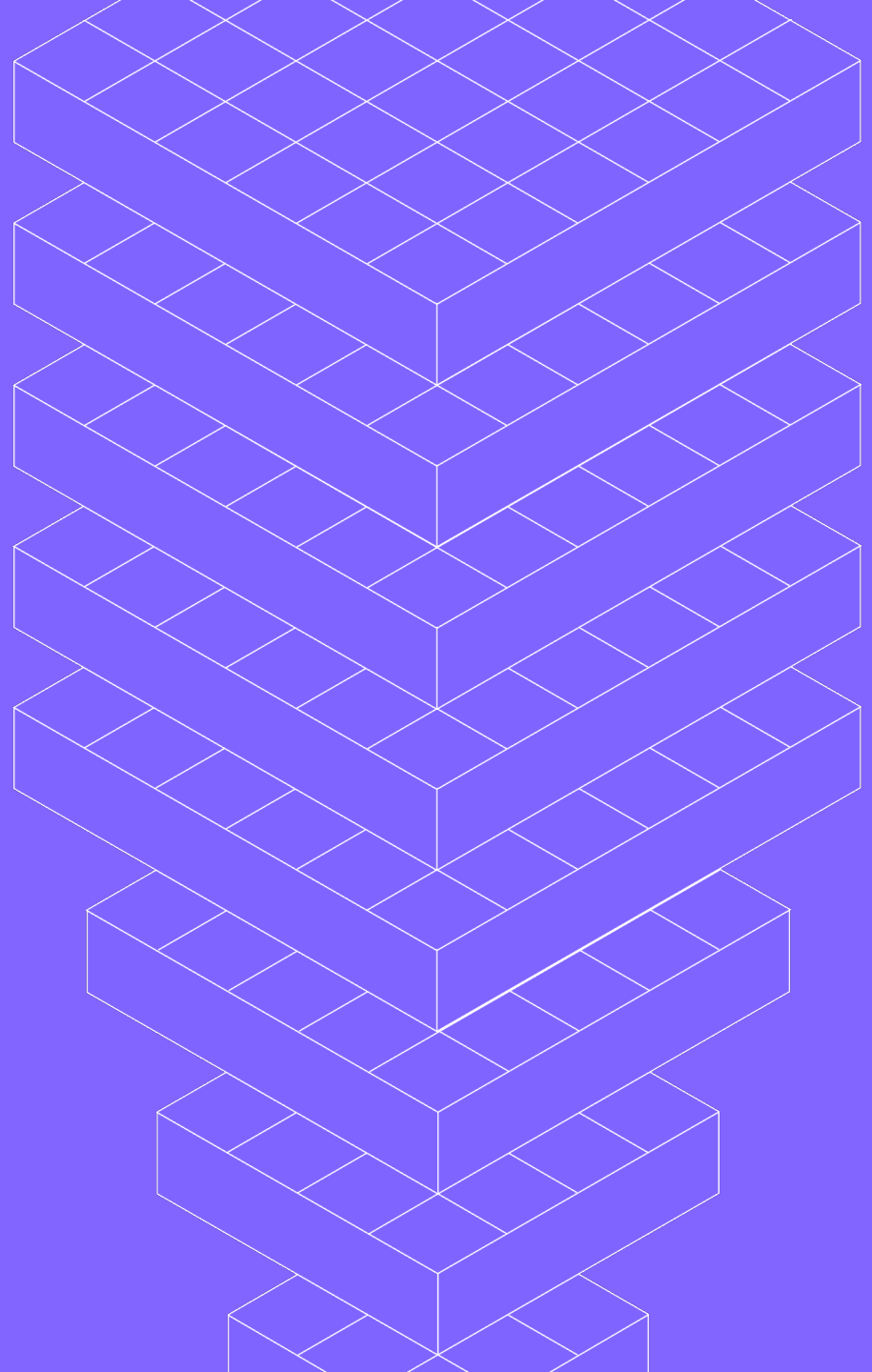


Bitcoin's Overall Cost Basis Is Stable, Though That Of Short-Term Holders Is Dropping

	Bitcoin Metrics ¹	Unit	August 2024	1M Change	1Y Change	ARK's View	Upgrade/Downgrade ³
Long-Term Valuation	<u>Market Cost Basis</u> (Realized Price)	USD	\$31,495	+0.39%	+55.2%	Bullish	No Change
	<u>Percent Supply In Profit</u>	pp	75.6	-8.02	+16.9	Neutral	No Change
Short-Term Valuation	<u>Short-Term-Holder Cost Basis²</u> (STH Realized Price)	USD	\$63,245	-3.7%	+124.3%	Neutral	↓
	<u>Realized Market Returns²</u> (SOPR-1, 7-day moving average)	pp	2.7	-7.9	+9.9	Neutral	No Change
Market Sentiment	<u>Perpetual Futures Basis</u> (Binance, Estimated)	pp	-0.06	-0.02	-0.01	Bullish	No Change
	<u>Expirational Futures Basis</u> (Quarterly, All Exchanges, Annualized)	pp	7.2	-3.4	+2.2	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 August 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.

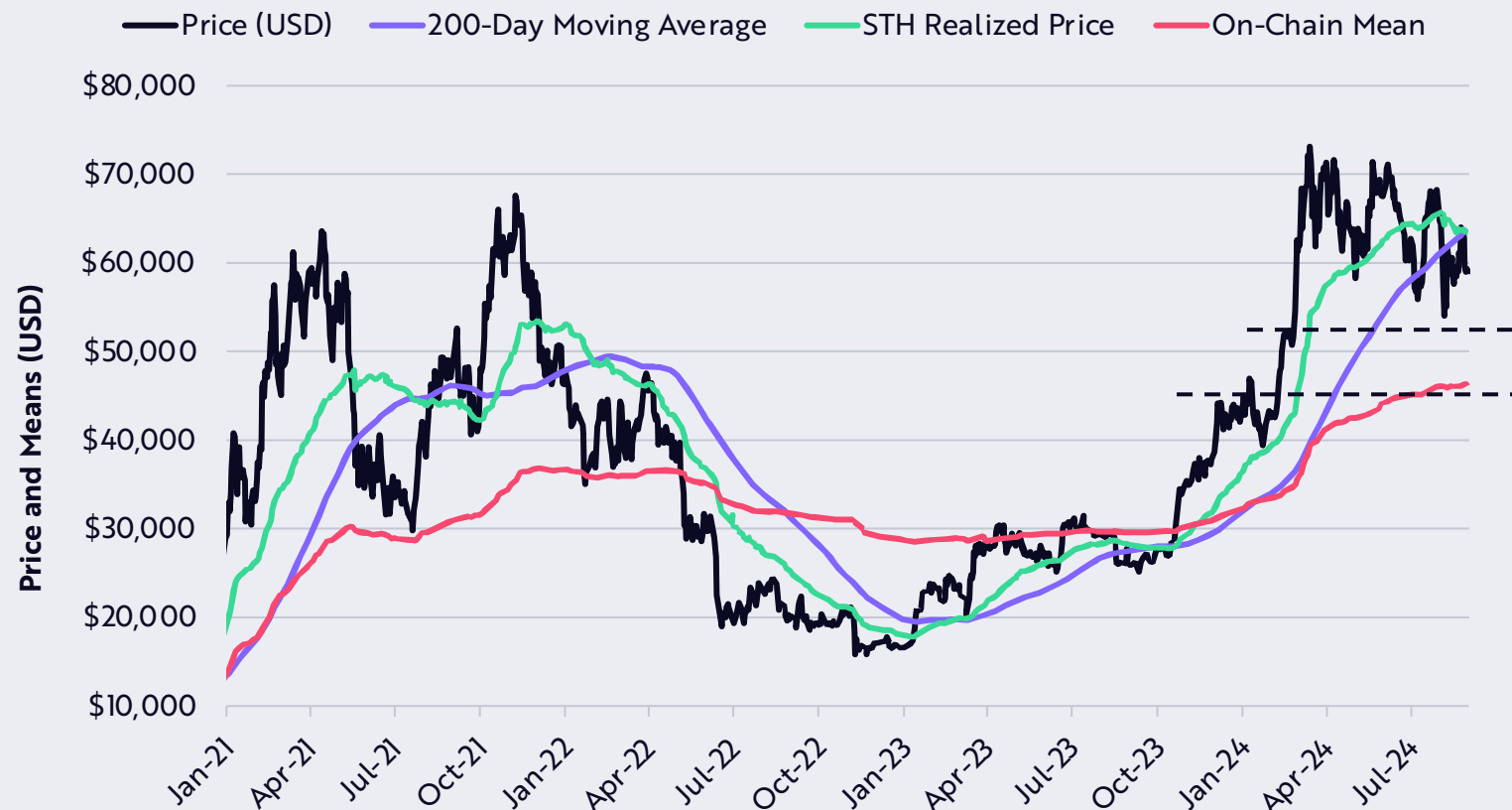
Bitcoin's Fundamentals Are Bullish Structurally, Though Further Losses Could Accelerate Technical Selling Pressure





The Bitcoin Price Did Not Surpass Its 200-Day Moving Average Or The Cost Basis Of Short-Term Holders During August

Bitcoin Mean Reversion



Source: ARK Investment Management LLC, 2024. Chart data from Glassnode. Information as of August 31, 2024. STH realized price 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.

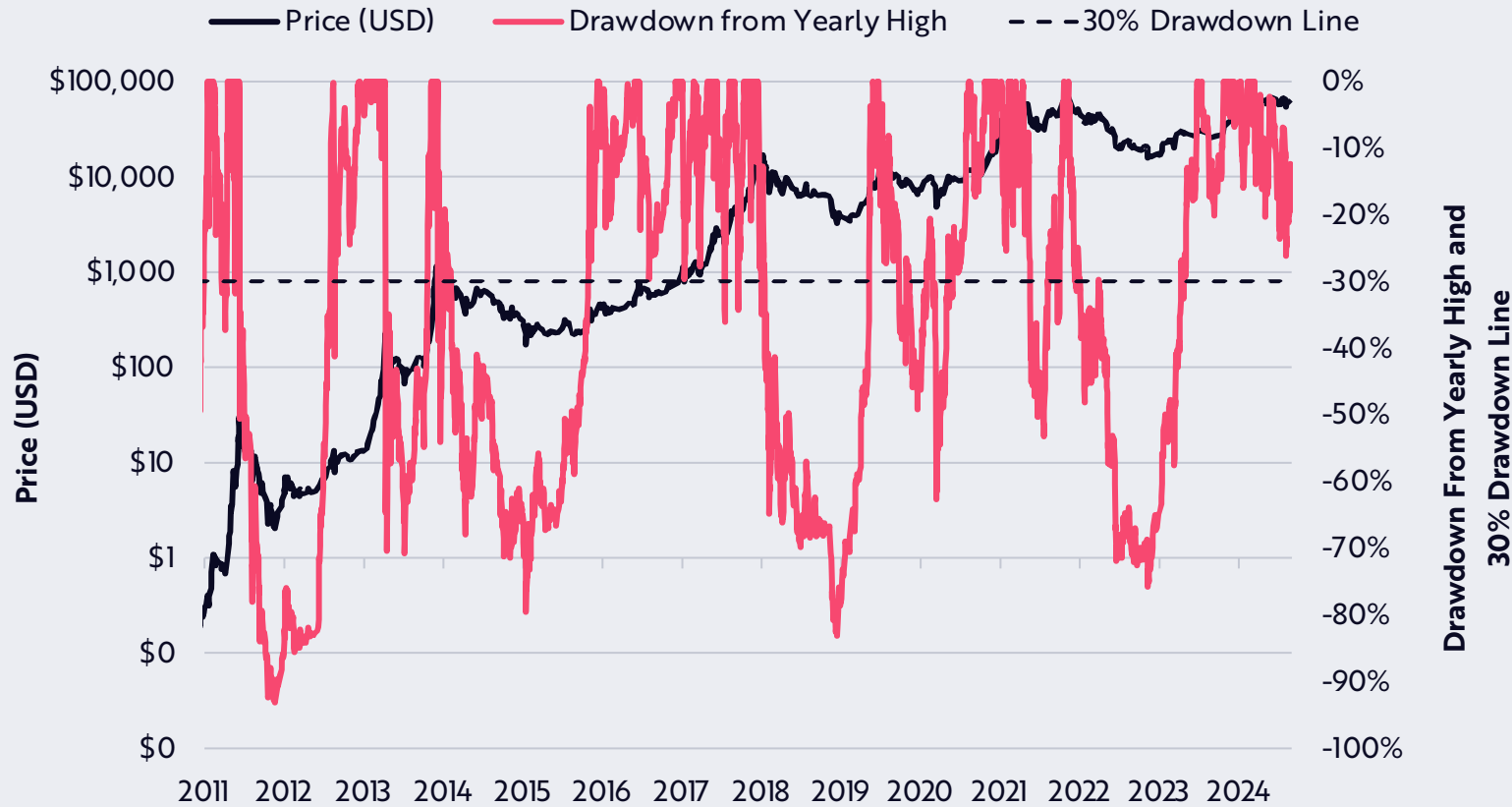
ARK'S VIEW: BEARISH

- During August, bitcoin's price decreased 8.7% to \$58,972.
- In late August, bitcoin's price was rejected by the 200-day moving average and the short-term-holder cost basis—\$63,693 and \$63,245, respectively—at month's close.
- Currently, 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.



Though Trailing Its Highs, The Price Of Bitcoin Remains In A Bullish Trend

Bitcoin Drawdown From Yearly Highs



ARK'S VIEW: BULLISH

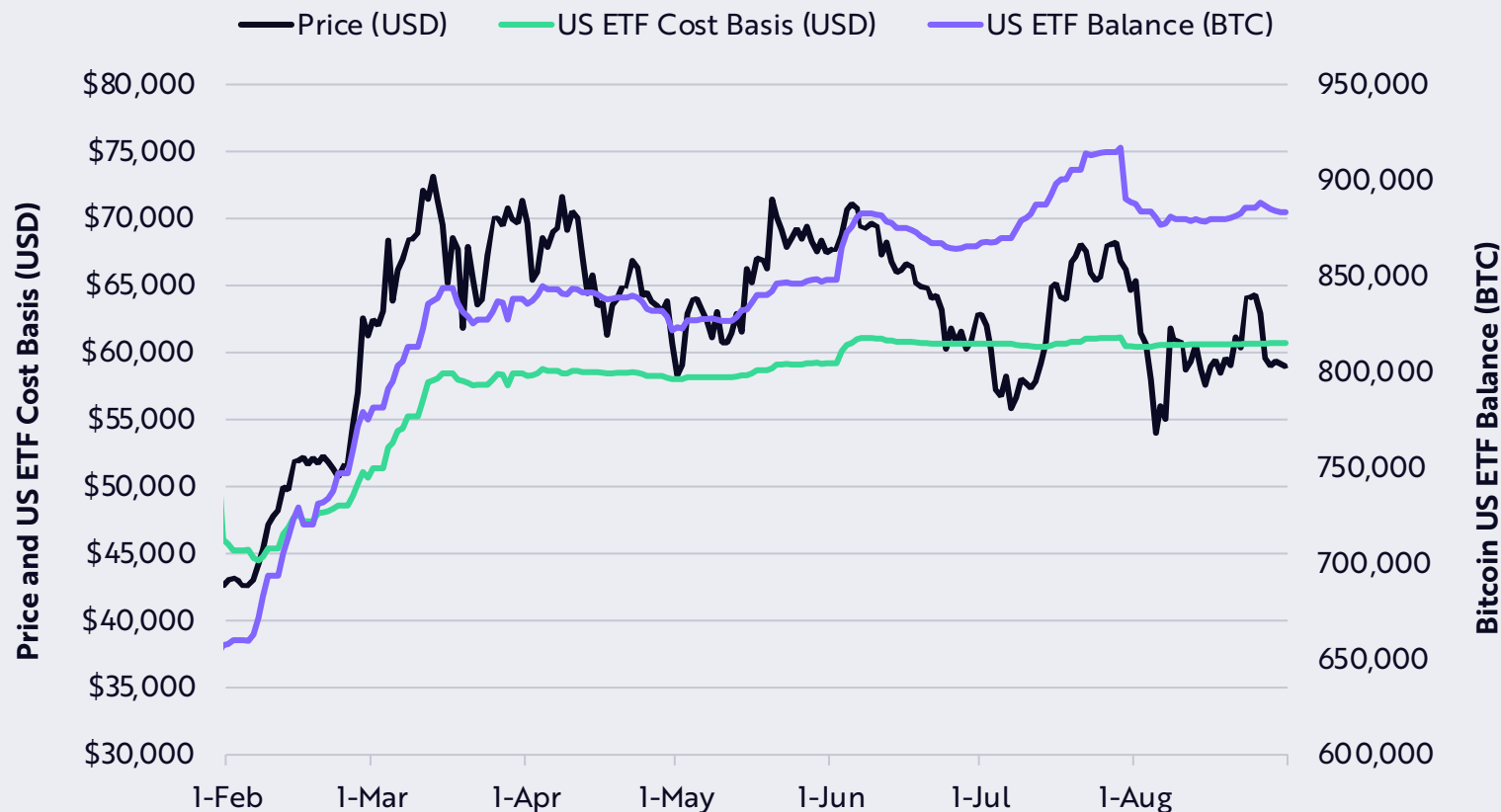
- When measured against bitcoin's rolling yearly highs, the percent price drawdown in 2024 still suggests the kind of correction associated historically with bitcoin's bullish primary trends, like those seen in 2016 and 2017, for example.
- Corrections from yearly highs of 30% or greater—which in today's environment would correspond to losing the \$51,000 level on a daily-close basis—usually indicate bull markets.

Source: ARK Investment Management LLC, 2024. Chart data from Glassnode. Information as of August 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.



In Aggregate, Bitcoin ETF Investors Are Underwater

Bitcoin US ETF Cost Basis¹ and Balance¹



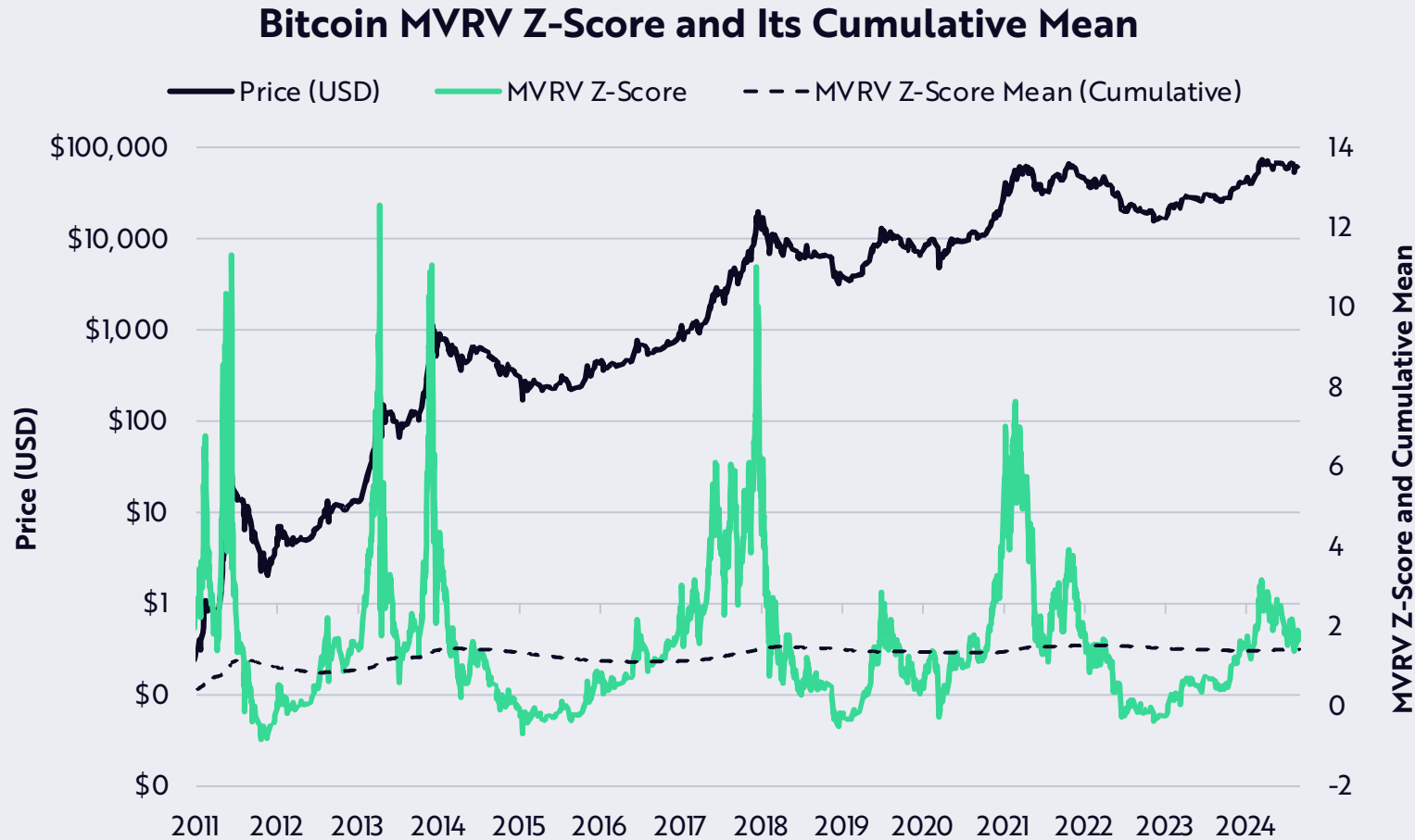
ARK'S VIEW: BEARISH

- At the end of August, the estimated cost basis of US spot ETF participants was higher than bitcoin's price, suggesting that the average ETF investor may be at a loss.
- Based on the launch of the US spot bitcoin ETFs in January 2024, we are calculating the cost basis as a flow-weighted average price.

[1] Includes ARKB, BITB, BRRR, BTCO, FBTC, GBTC, HODL, IBIT, BTCW, and EZBC. Source: ARK Investment Management LLC, 2024. Chart data from Glassnode. Information as of August 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.



Relative To Its Mean, The MVRV Z-Score Still Is In Bull Market Territory



ARK'S VIEW: BULLISH

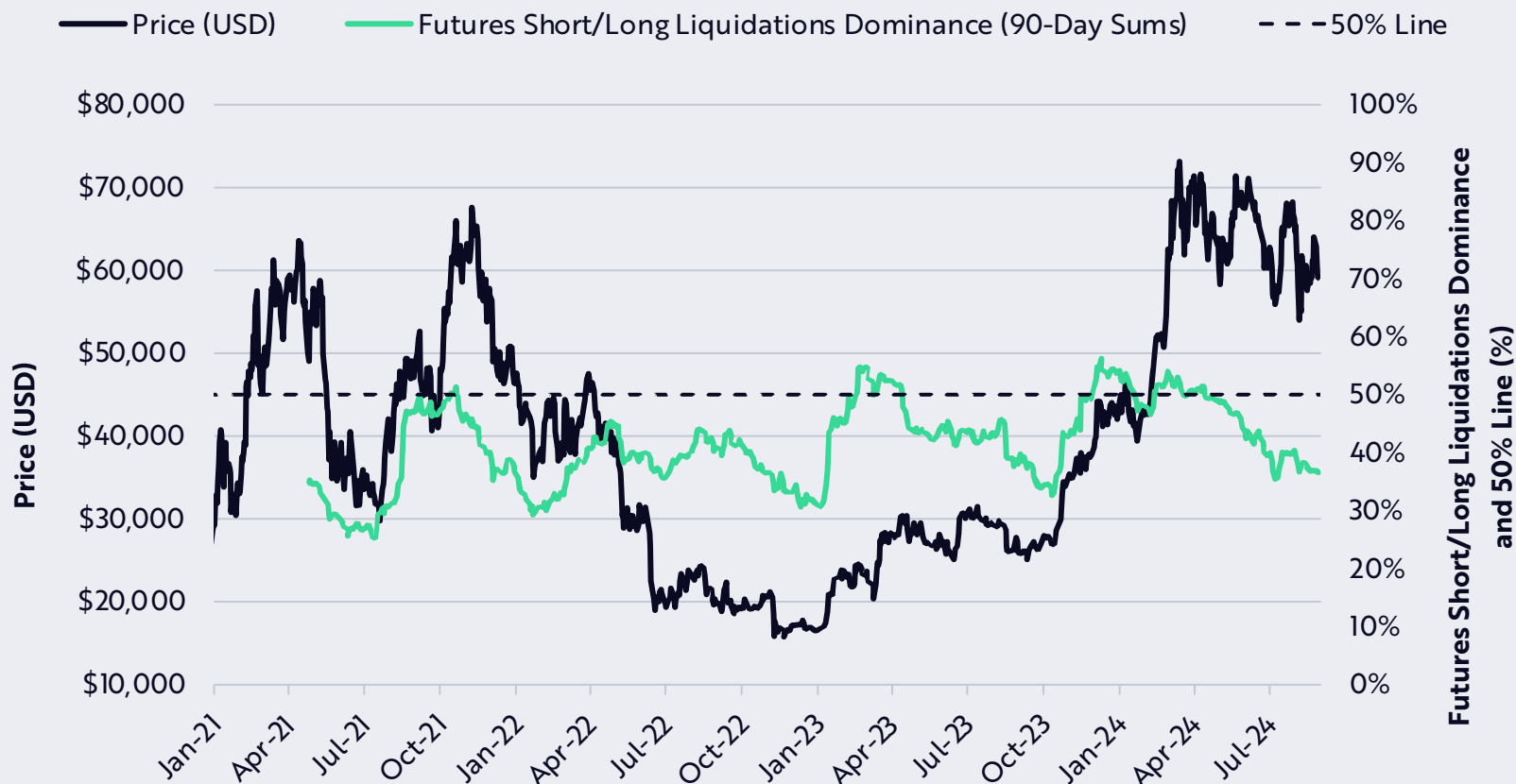
- An indicator comparing bitcoin's market cap to its cost basis cycle-to-cycle, bitcoin's MVRV Z-score has defended its mean since inception.
- At the close of August, the MVRV Z-Score was 1.6, relative to its mean at 1.42.
- The mean serves as a demarcation point between the bull market and an impending bear market.

Source: ARK Investment Management LLC, 2024. Chart data from Glassnode. Information as of August 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.



Short-Term Liquidations Relative To Long-Term Liquidations Have Reached Low Levels Not Seen Since The Second Quarter Of 2023

Bitcoin Futures Short/Long Liquidations Dominance (90-Day Sums)¹



ARK'S VIEW: BULLISH

- Shorts constituted only 37% of total liquidations during August, which may correlate with local market bottoms.
- We calculate the short to long liquidation dominance by dividing the sum of short liquidations over the last 90 days by the sum of short *and* long liquidations over the same period.

[1] Includes Binance, BitMEX, and OKX. Source: ARK Investment Management LLC, 2024. Chart data from Glassnode. Information as of August 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.



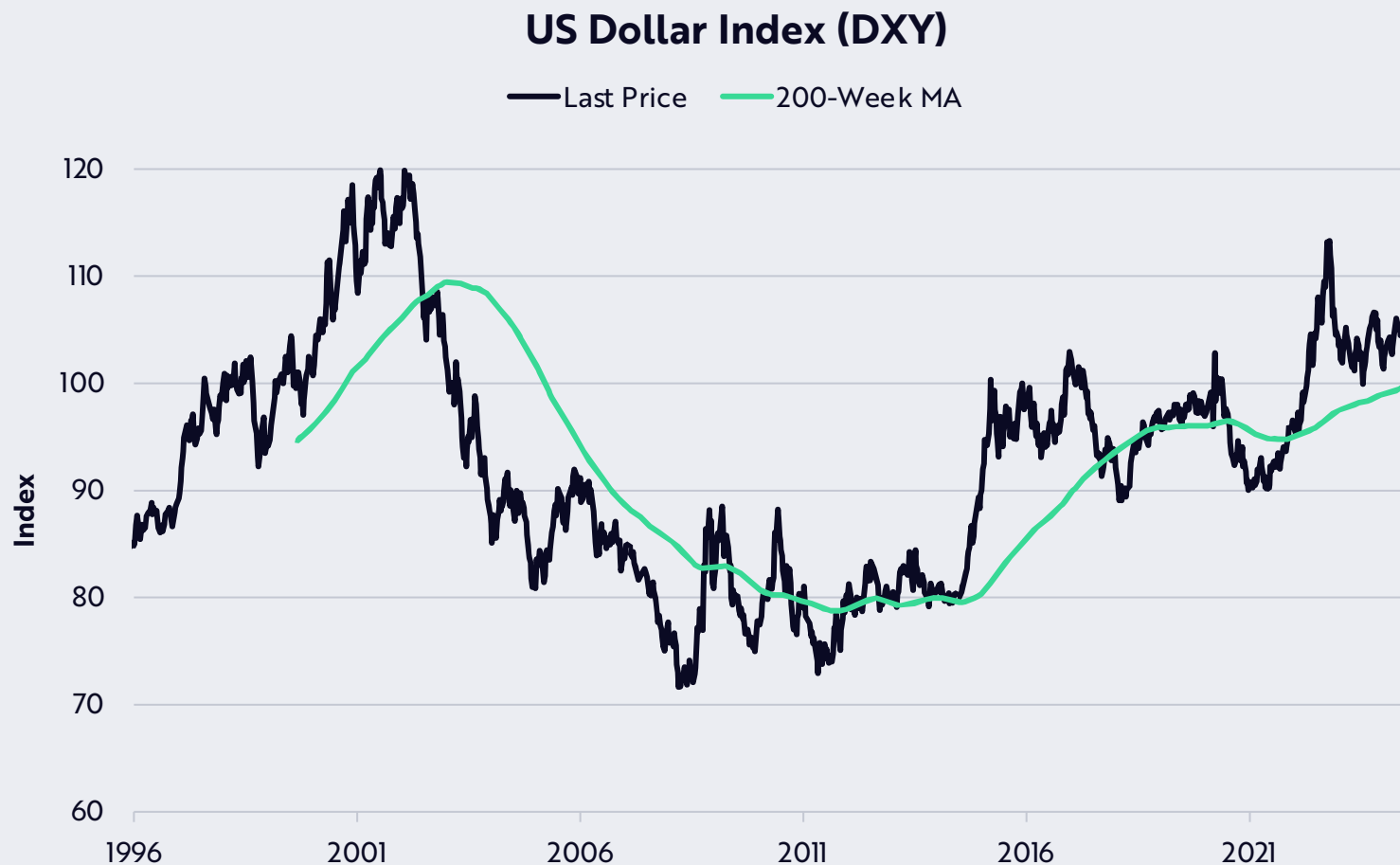
Section 03

The U.S. Dollar Begins To Weaken As Employment Falters And Inflation Drops Below A Key Level





The U.S. Dollar Weakened To Its 200-Week Moving Average



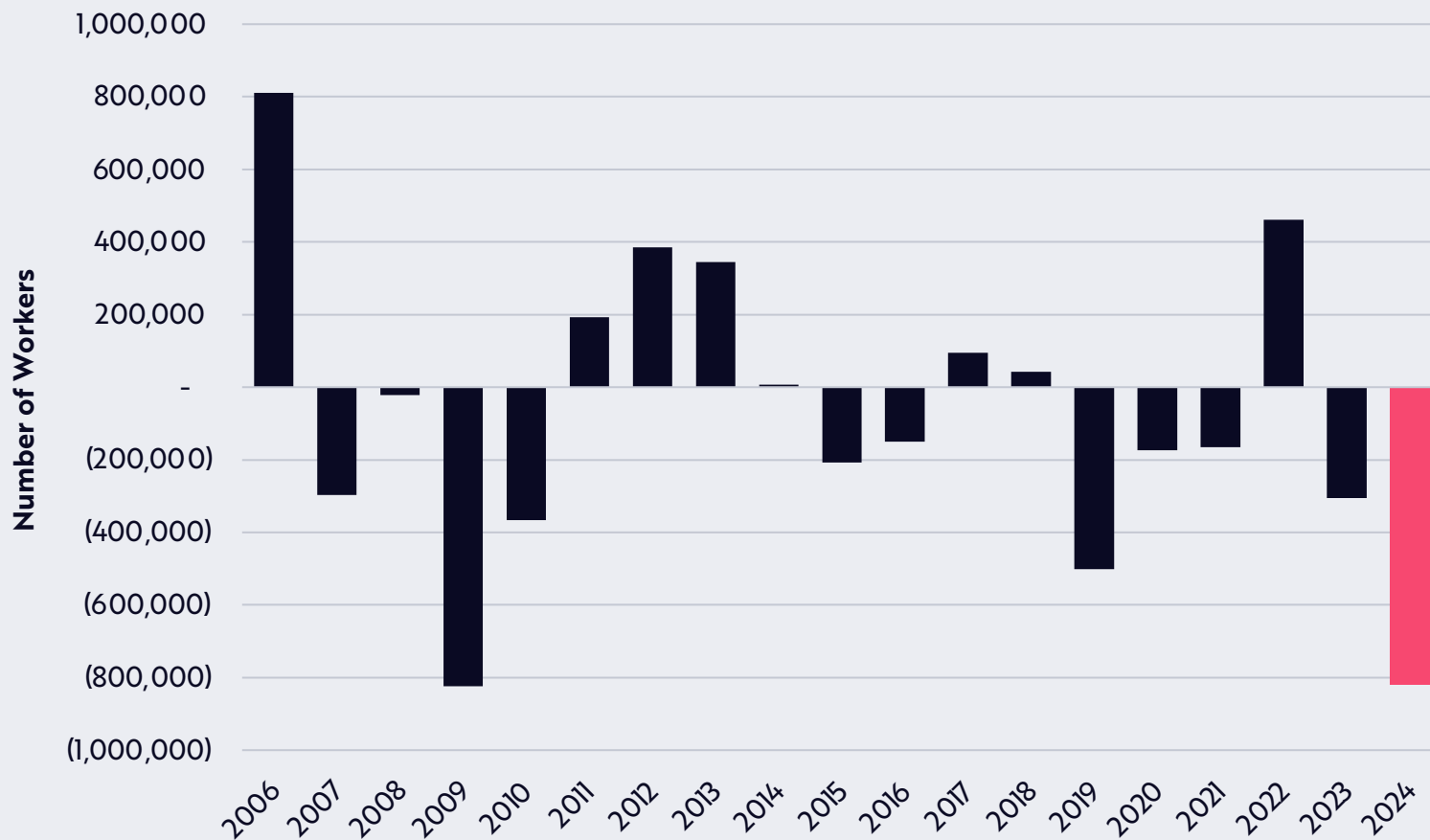
ARK'S VIEW: NEUTRAL

- The U.S. dollar weakened against major currencies as markets priced in a more dovish federal reserve.
- A bounce off the 200-week moving average for the DXY could put more pressure on commodities like gold and oil, as well as emerging market equities and bitcoin. Conversely, a DXY break below the 200-week moving average could weaken the dollar, potentially benefiting those asset classes.



Employment Data Suffer The Largest Downward Revision Since 2009

Preliminary Employment Revisions Each Year



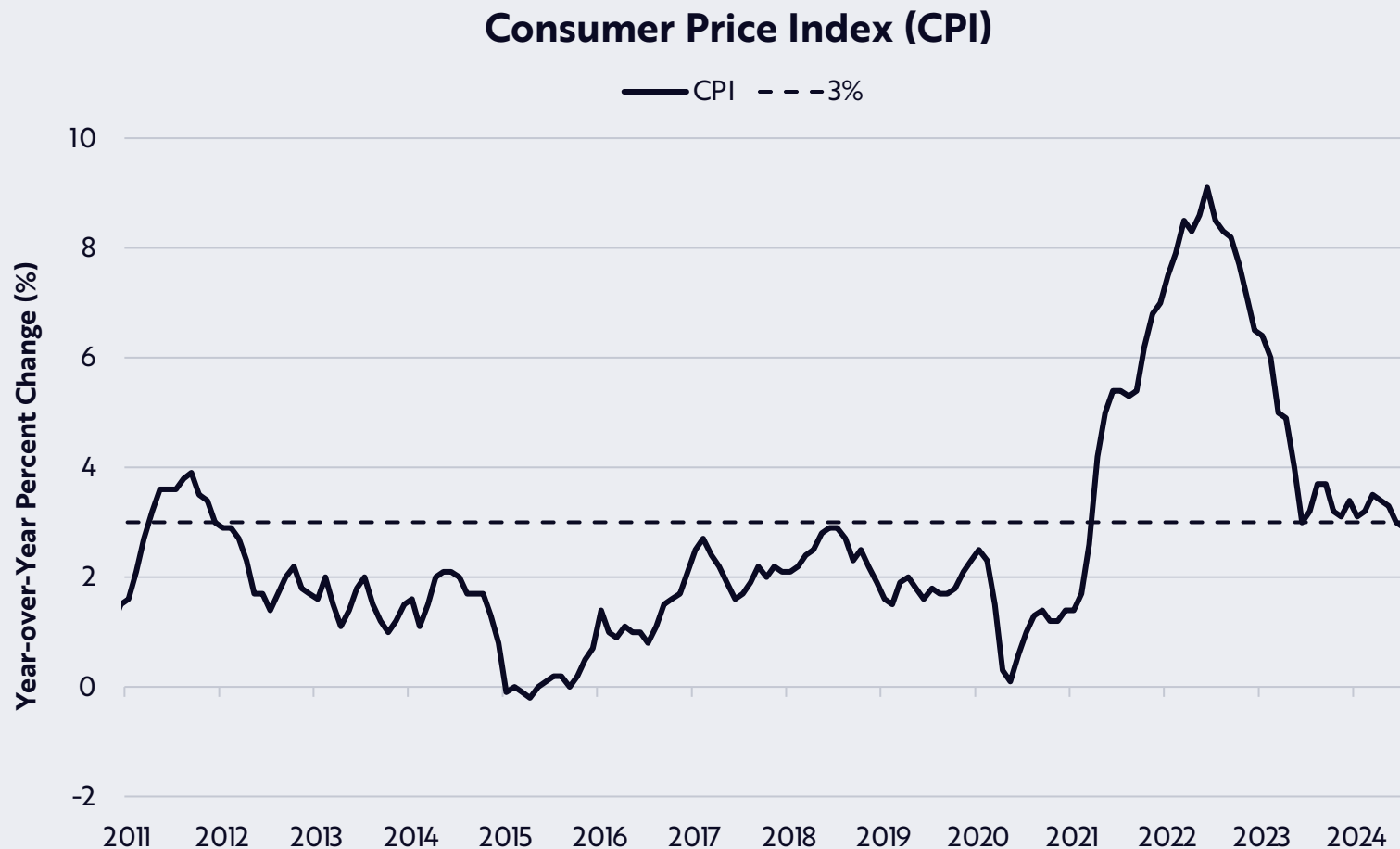
ARK'S VIEW: BEARISH

- The Bureau of Labor Statistics (BLS) published employment data demonstrating an annual revision of -818,000 jobs for the twelve months ending in March 2024.
- The downward revision takes the monthly average payroll count down from 242,000 jobs created per month to 174,000.
- The US labor market is much weaker than preliminary data suggested.

ARK Investment Management LLC, 2024. Chart data from Bloomberg. Information as of August 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.



The Inflation Rate Falls Below 3%



ARK'S VIEW: BULLISH

- The headline Consumer Price Index (CPI) inflation rate slowed to 2.9% year-over-year for the first time since March 2021.
- Slowing inflation should place downward pressure on interest rates and benefit interest rate-sensitive assets.



Leading Indicators Signal Continued Weakness Ahead

Conference Board US Leading Economic Index



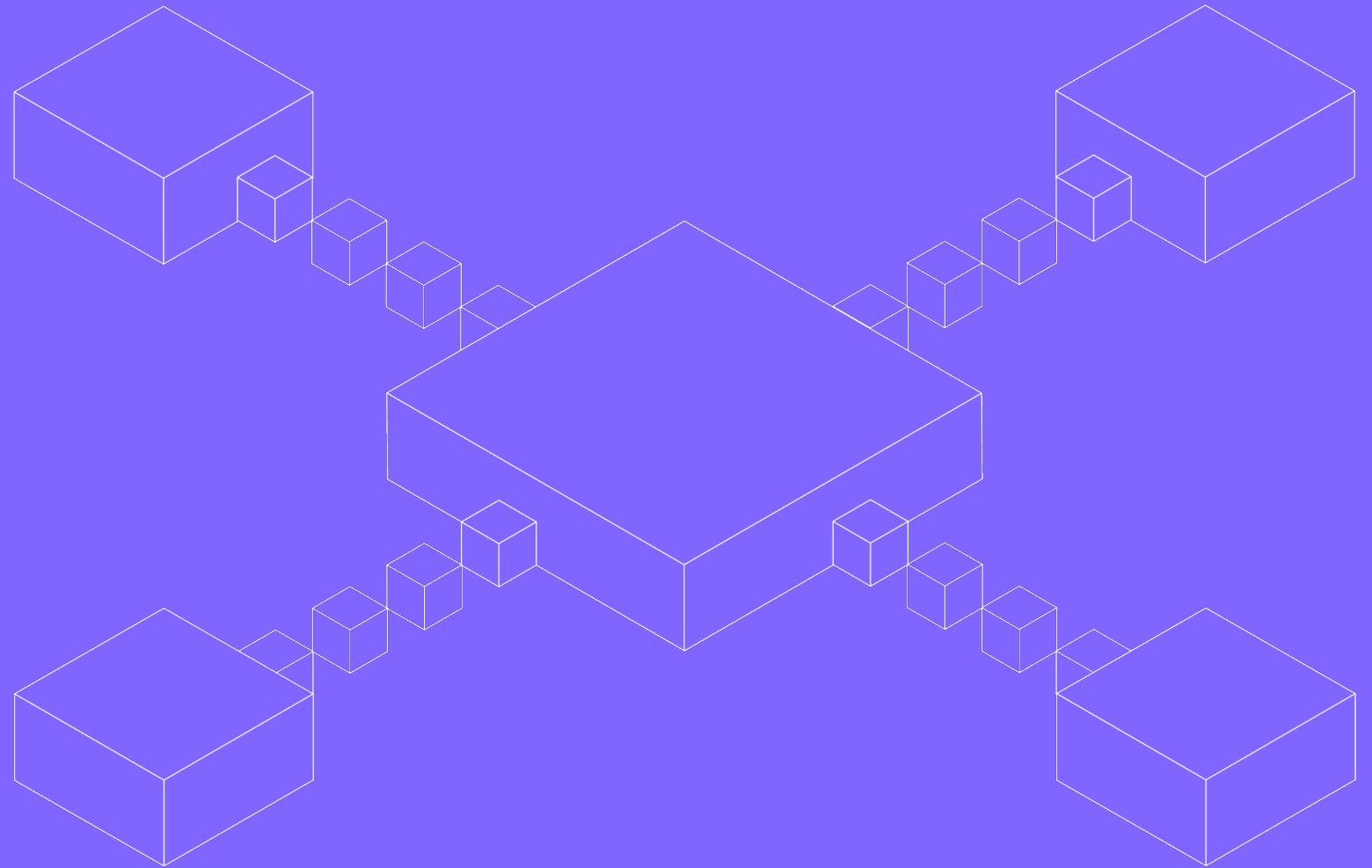
ARK'S VIEW: BEARISH

- The Conference Board tracks leading economic indicators like stock prices, credit spreads, and purchasing manager indices (PMIs) to gauge the direction of future economic activity.
- Today, the Leading Economic Index (LEI) is lower than its Covid-era lows, when the US economy had shut down.
- Interest rates should decline as the economy continues to weaken.



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.

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.

MVRV Z-Score: Defined as the ratio of the difference of market cap and realized cap to the cumulative, inception-to-date standard deviation of market 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).



For more research on disruptive innovation visit www.ark-invest.com

©2022-2026, ARK Investment Management LLC. No part of this material may be reproduced in any form, or referred to in any other publication, without the express written permission of ARK Investment Management LLC ("ARK").

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 and/or may face political or legal attacks from competitors, industry groups, or local and national governments.

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.

The content of this presentation is for informational purposes only and is subject to change without notice. This presentation does not constitute, either explicitly or implicitly, any provision of services or products by ARK and investors are encouraged to consult counsel and/or other investment professionals as to whether a particular investment management service is suitable for their investment needs. All statements made regarding companies or securities are strictly beliefs and points of view held by ARK and are not endorsements by ARK of any company or security or recommendations by ARK to buy, sell or hold any security. Historical results are not indications of future results. Certain of the statements contained in this presentation may be statements of future expectations and other forward-looking statements that are based on ARK's current views and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in such statements. The matters discussed in this presentation may also involve risks and uncertainties described from time to time in ARK's filings with the U.S. Securities and Exchange Commission. ARK assumes no obligation to update any forward-looking information contained in this presentation. 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. ARK and its clients as well as its related persons may (but do not necessarily) have financial interests in securities or issuers that are discussed.

ARK Investment Management LLC