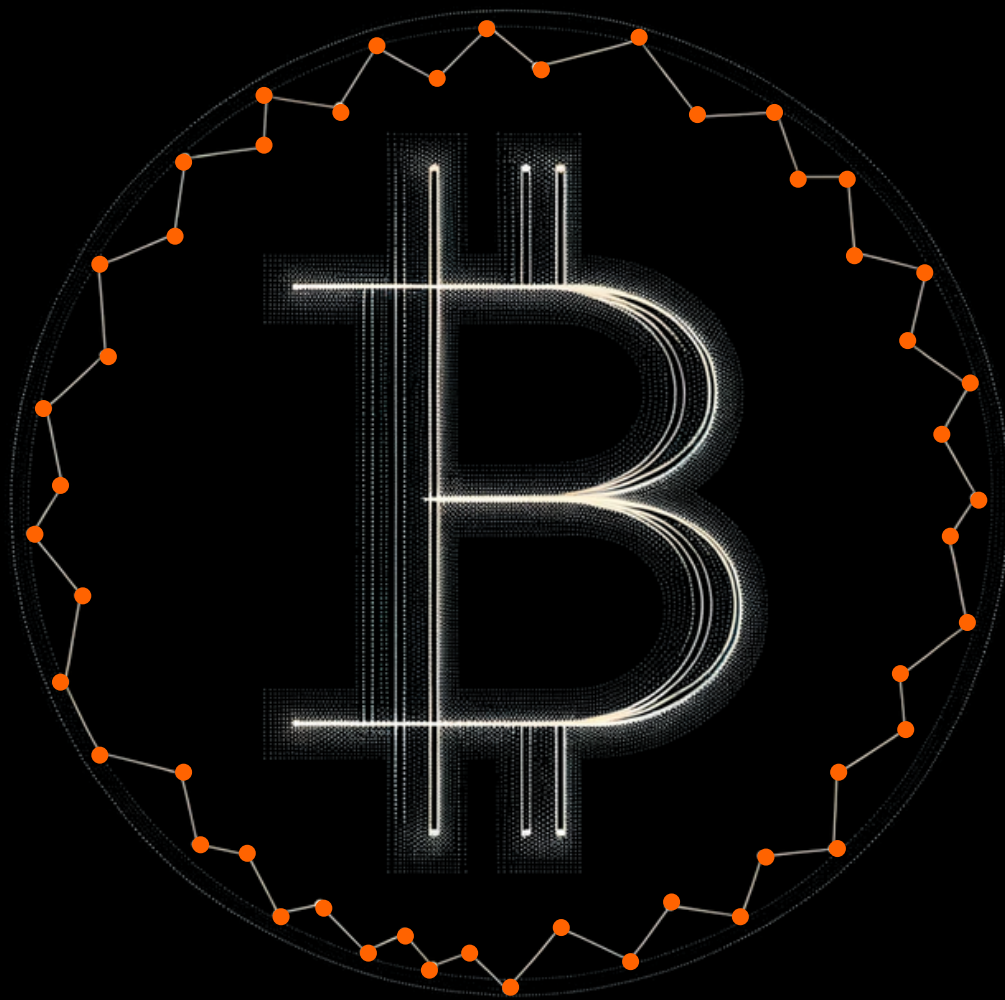


DECRYPT0

Bitcoin: The Last Dance

The end of 4-year
Cyclical Market
Behavior



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This report is a comprehensive offering by DECRYPTO, your go-to resource for institutional-grade research in digital assets, cryptocurrency, and blockchain technology.

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This report was written between October 20, 2023 and October 27, 2023.

Key Takeaways

Race to Halving: The 365 days leading to a Bitcoin halving event are generally bullish, with significant price gains observed in each epoch.

Innovation Timeline: The 4-year cycles in the Bitcoin ecosystem are not just shaped by halving events but also significantly driven by innovations such as centralized exchanges, stablecoins, and perpetual futures, which attract new participants and unlock liquidity.

Institutional Influx: The anticipated approval of Bitcoin Spot ETFs is set to be a game-changer, signaling the long-awaited arrival of institutional capital.

Correlation Complexity with S&P 500: The increasingly positive correlation in the current epoch suggests that Bitcoin and the S&P 500 are becoming susceptible to similar macroeconomic variables. However, the current zero correlation warns against drawing definitive conclusions.

Unpredictable Relationship with Gold: Despite its frequent comparisons to gold, Bitcoin has shown inconsistent correlation patterns with the precious metal.

Futures Market: The Bitcoin futures market, especially perpetual futures, has proven to be an integral part of the cryptocurrency ecosystem.

Investor Behavior by Holdings:

- Small investors (<1 BTC) favor long-term accumulation.
- Mid-tier investors (10-100 BTC) adopt a balanced strategy.
- Large investors (100-1000 BTC) engage in active trading based on market conditions.

Off-Chain Transactions

Slowed growth in on-chain transactions due to the rise of off-chain solutions like the Lightning Network.

Average Transaction Value

Substantial growth over epochs, indicating increasing confidence in the Bitcoin network.

The Last Dance: This transformative era, marked by the potential launch of Bitcoin ETFs, could signify the end of Bitcoin's traditional four-year market cycles, ushering in a new paradigm.

Introduction

Bitcoin, the pioneering cryptocurrency created by an anonymous individual or group known as Satoshi Nakamoto, has fundamentally altered the landscape of digital finance, operating on a principle of predictable economics.

One of the most fascinating aspects of Bitcoin is its supply mechanism, particularly the concept of "halving." In simple terms, a Bitcoin halving is an event that occurs every 210,000 blocks, roughly every four years, where the reward that miners receive for adding a new block to the blockchain is halved. This mechanism is built into the code of Bitcoin and will continue until all 21 million coins are mined, which is expected to be around the year 2140.

Despite this predictability, these events often lead to significant market fluctuations, which raises an intriguing question:

Why are Bitcoin halving events not priced in by the market?

In traditional finance, markets are considered "efficient" in the sense that all available information is usually incorporated into asset prices. This theory, known as the Efficient Market Hypothesis (EMH), posits that if future earnings or other variables were known with certainty, asset prices would reflect this information almost instantaneously.

However, Bitcoin seems to defy this logical expectation. Multiple academic research indicate that the Bitcoin market is not perfectly efficient and that pricing anomalies do exist.

So why doesn't the Bitcoin market act in accordance with the rational expectations theory?

So why doesn't the Bitcoin market act in accordance with the rational expectations theory?

One answer may lie in the landscape of behavioral economics, which accounts for the psychological and emotional factors that influence investor decisions.

This is particularly relevant in a market like Bitcoin, which is still relatively young and significantly more volatile than traditional financial markets. The speculative nature of Bitcoin investments and the influx of new participants around each halving event—often lured in by media hype—contribute to its unpredictable price movements.

As we approach the 4th Bitcoin halving, referred to as "The Last Dance," there is palpable anticipation in the market.

The name itself indicates that this could be the last predictable cycle, as Bitcoin matures into a more widely-accepted asset class. Will this event finally see Bitcoin's market behave more rationally, or will the cyclical nature of human emotion and speculation again take the driver's seat?

Regardless of the outcome, Bitcoin continues to serve as an extraordinary subject for economic and technological research, this report delves into the historical dynamics of halving events both off-chain and on-chain. Its primary aim is to provide insights for navigating the upcoming 4th halving, which we believe marks the culmination of predictable cycles, "The Last Dance".

Part 1: Off-Chain

Driving Liquidity in the Bitcoin Market Through Innovation

To fully understand the cyclical economic bubbles that surface roughly every four years in sync with Bitcoin's halving events, one must consider a range of factors. These include not just on-chain dynamics, which were notably significant in Bitcoin's early stage when miners held 30-50% of the total supply, but also off-chain developments.

Over time, the percentage of the total supply held by miners has decreased to around 8%, pointing to an evolution in liquidity sources. Innovations, particularly those that unlock liquidity, have become increasingly vital in shaping the Bitcoin market.

Initially, capital flows were primarily channeled towards dark markets, gambling, and a rudimentary form of retail trading.

However, as the market matured, off-chain developments brought in new innovations that have acted as catalysts for fresh streams of liquidity and market participation. These changes often take root during bear market conditions, a period advantageous for developers and entrepreneurs to step back from speculative chaos and focus on generating genuine utility.

In this chapter, we delve into the various innovations that have been instrumental in not just driving mass adoption but also unlocking liquidity.

Miner Balance (●) in % to BTC Supply (●)



Source: Glassnode

2010

The genesis of cryptocurrency exchanges

In 2006, programmer Jed McCaleb conceptualized a website to allow users of the Magic card game to trade their cards like stocks. He purchased the domain mtgox.com in 2007, an acronym for "Magic: The Gathering Online eXchange." However, by 2010, Mt.Gox had morphed into a Bitcoin exchange. Despite its unfortunate history, Mt.Gox played an instrumental role in the early Bitcoin ecosystem, allowing for real-time price quotations and trading, thus facilitating the entry of fiat currencies into the Bitcoin universe.

Similarly, The Rock Trading, an Italian exchange initially created in 2007 to exchange Second Life's Linden Dollars, also pivoted to cryptocurrencies. Though it eventually declared bankruptcy in 2023, it too helped in shaping the initial contours of cryptocurrency trading.

These early cryptocurrency exchanges served as the catalyst for Bitcoin's first market bubble. They not only facilitated real-world valuation of Bitcoin through trading but also provided an easy way for people to exchange fiat currencies for Bitcoin, subsequently fueling transactions on dark web marketplaces.

2012-2014

Exchanges importing traditional trading mechanisms

By 2011 and 2012, the landscape witnessed the advent of several noteworthy platforms that would go on to change the very fabric of cryptocurrency trading. Among these were Kraken and Coinbase in the United States, and Bitstamp and Bitfinex in Europe.

These platforms introduced features commonly seen in traditional financial trading, such as order books, over-the-counter (OTC) desks and wire transfers. Perhaps one of the most significant imports from traditional financial markets was the concept of margin trading. This leveraged trading system empowered traders to amplify their trading positions by borrowing capital, thus providing the potential for greater returns (or losses).

The capabilities of leverage, coupled with the nuanced trading instruments, drew in a new wave of traders. These were not just hobbyists, nerd or early adopters; they were professional traders and investors.

2015-2017

The advent of Stablecoins

Between the years 2014 and 2015, a monumental innovation came to the forefront of the cryptocurrency market, courtesy of Bitfinex. **This was the introduction of Tether (USDT), the world's first stablecoin designed to be pegged one-to-one with the U.S. dollar.** Unlike typical cryptocurrencies, which are notorious for their price volatility, Tether offered a stable value proposition backed by off-chain assets such as bank reserves.

Tether provided a solution to this issue, offering a refuge for traders to park their assets during tumultuous market conditions. It acted as a stable asset that traders could swiftly convert their cryptocurrencies into, preserving value and mitigating risk. This ease of transitioning between a volatile asset and a stable one lowered the trading friction, attracting even more participation from traders and investors alike.

2016-2021

The evolution of leverage with Perpetual Futures

In 2016, BitMEX broke new ground by announcing the creation of perpetual futures—a financial instrument with no expiry date, effectively mimicking a margin-based spot market. This innovative product offered traders the chance to engage in leveraged trading with amplification as high as 100x.

By 2020, the impact of perpetual futures had become undeniable as other major platforms like Binance and FTX adopted similar instruments, contributing to the market frenzy and bubble witnessed in 2021.

2024 (estimate)

ETFs and Institutional Capital

In the current market landscape, the buzz surrounds the expected approval of Bitcoin Spot Exchange-Traded Funds (ETFs), with financial heavyweights like Greyscale, BlackRock, and Fidelity at the forefront.

The approval of Spot ETFs is predicted to catalyze a seismic shift in the market by introducing new retail and institutional investors.

More significantly, it is set to bring a substantial influx of liquidity to the Bitcoin ecosystem. The rise of ETFs marks the long-anticipated arrival of institutional capital and seasoned financial operators, capable of constructing diversified portfolios and intricate trading strategies that have the potential to redefine the cryptocurrency market as we know it.

The Last Dance

Just like the initial exchanges, followed by order books, OTC desks, margin trading, stablecoins, and perpetual futures, **ETFs are expected to bring in new users and, more importantly, liquidity to the market. However, this liquidity in ETFs is unlikely to flow instantly**, much like the slow adoption and use of exchanges, stablecoins, margin trading, and perpetual futures.


The arrival of ETFs marks the entry of true institutional capital and professional operators who, thanks to ETFs, will be able to build portfolios and strategies that, we believe, will change the dynamics of the cryptocurrency market, making the upcoming cycle the last of its kind—hence, we refer to it as "The Last Dance."

This implies that the characteristic price dynamics that have marked previous cycles may no longer apply, as the industry undergoes a significant and irreversible transformation.

Issuer (Ticker)	Company	Asset	Prospectus Filing Date	19b-4 Federal Register	First Deadline	Second Deadline	Third Deadline	Final Deadline
Grayscale Bitcoin Trust (Re-file) Conversion (GBTC)	Grayscale	Bitcoin	5/4/15	11/8/21	12/23/21	2/6/22	5/7/22	7/6/22
ARK 21Shares Bitcoin ETF (Re-filing) (ARKB)	21Shares & ARK	Bitcoin	6/28/21	5/15/23	6/29/23	8/13/23	11/11/23	1/10/24
iShares Bitcoin Trust	BlackRock	Bitcoin	6/15/23	7/19/23	9/2/23	10/17/23	1/15/24	3/15/24
Bitwise Bitcoin ETP Trust (Re-filing)	Bitwise	Bitcoin	10/14/21	7/18/23	9/1/23	10/16/23	1/14/24	3/14/24
VanEck Bitcoin Trust (Re-filing)	VanEck	Bitcoin	12/30/20	7/19/23	9/2/23	10/17/23	1/15/24	3/15/24
Wisdomtree Bitcoin Trust (Re-filing) (BTCW)	Wisdomtree	Bitcoin	12/8/21	7/19/23	9/2/23	10/17/23	1/15/24	3/15/24
Invesco Galaxy Bitcoin ETF (Re-filing)	Invesco & Galaxy	Bitcoin	9/21/21	7/19/23	9/2/23	10/17/23	1/15/24	3/15/24
Wise Origin Bitcoin Trust (Re-filing)	Fidelity	Bitcoin	3/24/21	7/19/23	9/2/23	10/17/23	1/15/24	3/15/24
Valkyrie Bitcoin Fund (Re-filing) (BRRR)	Valkyrie	Bitcoin	1/22/21	7/21/23	9/4/23	10/19/23	1/17/24	3/19/24
Global X Bitcoin Trust (Re-filing)	Global X	Bitcoin	7/21/21	8/23/23	10/7/23	11/21/23	2/19/24	4/19/24
Hashdex Bitcoin ETF Strategy Change (DEFI)	Hashdex	Bitcoin	5/20/21	10/3/23	11/17/23	1/1/24	3/31/24	5/30/24
Franklin Bitcoin ETF	Franklin	Bitcoin	9/12/23	10/3/23	11/17/23	1/1/24	3/31/24	5/30/24

Note: Dates are estimates and/or deadlines, so they may come earlier.

Source: Bloomberg Intelligence, SEC.gov

Bloomberg 

Price and Drawdown

Bitcoin's halving cycles provide an illuminating lens through which one can observe its price performance.

Epoch 1 (November 28, 2012, to July 8, 2016):

This period witnessed a jaw-dropping peak of an 8,823% increase from the day of the halving.

Epoch 2 (July 9, 2016, to May 30, 2020):

Bitcoin's price peaked at a 2,800% increase from the day of the halving during this timeframe.

Epoch 3 (May 30, 2020, to April 24, 2024):

While this cycle is yet to be completed, it has so far reached a probable peak of a 591% increase from the day of the halving.

Performance Epoch 1 (●) vs Epoch 2 (●) vs Epoch 3 (●)



Source: Dune (Andrea Venturèlli)

Drawdown refers to the percentage reduction in an asset's price from its peak to its lowest point before a new peak is established. Bitcoin has experienced significant drawdowns following each of its peaks in the halving cycles:

Epoch 1 (November 28, 2012, to July 8, 2016):

The drawdown from the peak was about -82%.

Epoch 2 (July 9, 2016, to May 30, 2020):

Here, the drawdown was approximately -83%.

Epoch 3 (May 30, 2020, to present):

The drawdown has so far been about -77%.

What's noteworthy is that despite the immense growth in price, the drawdowns haven't significantly reduced over time. This suggests that while Bitcoin can offer substantial returns, it still carries considerable risk, especially during its bearish cycles.

Drawdown 1st Epoch (●) vs 2nd Epoch (●) vs 3rd Epoch (●)



Bitcoin, S&P500 and Gold. A complex relationship.

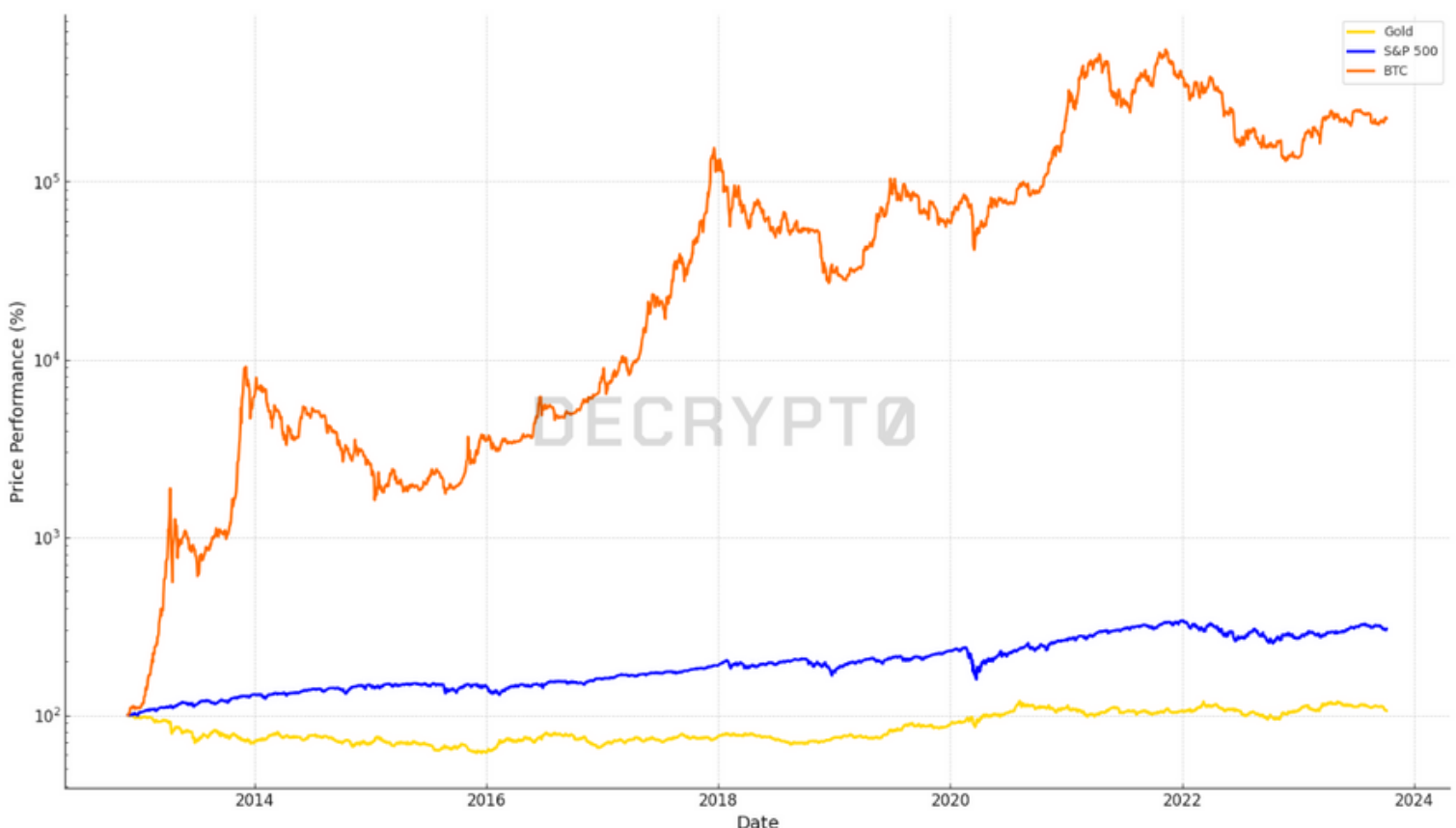
Ever since Satoshi Nakamoto introduced Bitcoin as a decentralized peer-to-peer electronic cash system in a 2008 whitepaper, the digital currency has evolved into a complex financial asset that draws attention from both retail and institutional investors around the globe.

If there's one word that encapsulates Bitcoin's financial history, it's "meteoric."

From being virtually worthless when it was first introduced to achieving all-time highs that few could have predicted, Bitcoin's journey has been nothing short of revolutionary.

This growth is even more astonishing when compared with traditional asset classes like gold and equities. While gold has served as a store of value for millennia and equities offer a piece of ownership in a company, neither has seen the kind of price acceleration witnessed in Bitcoin.

Performance BTC (●) vs S&P500 (●) vs Gold (●)



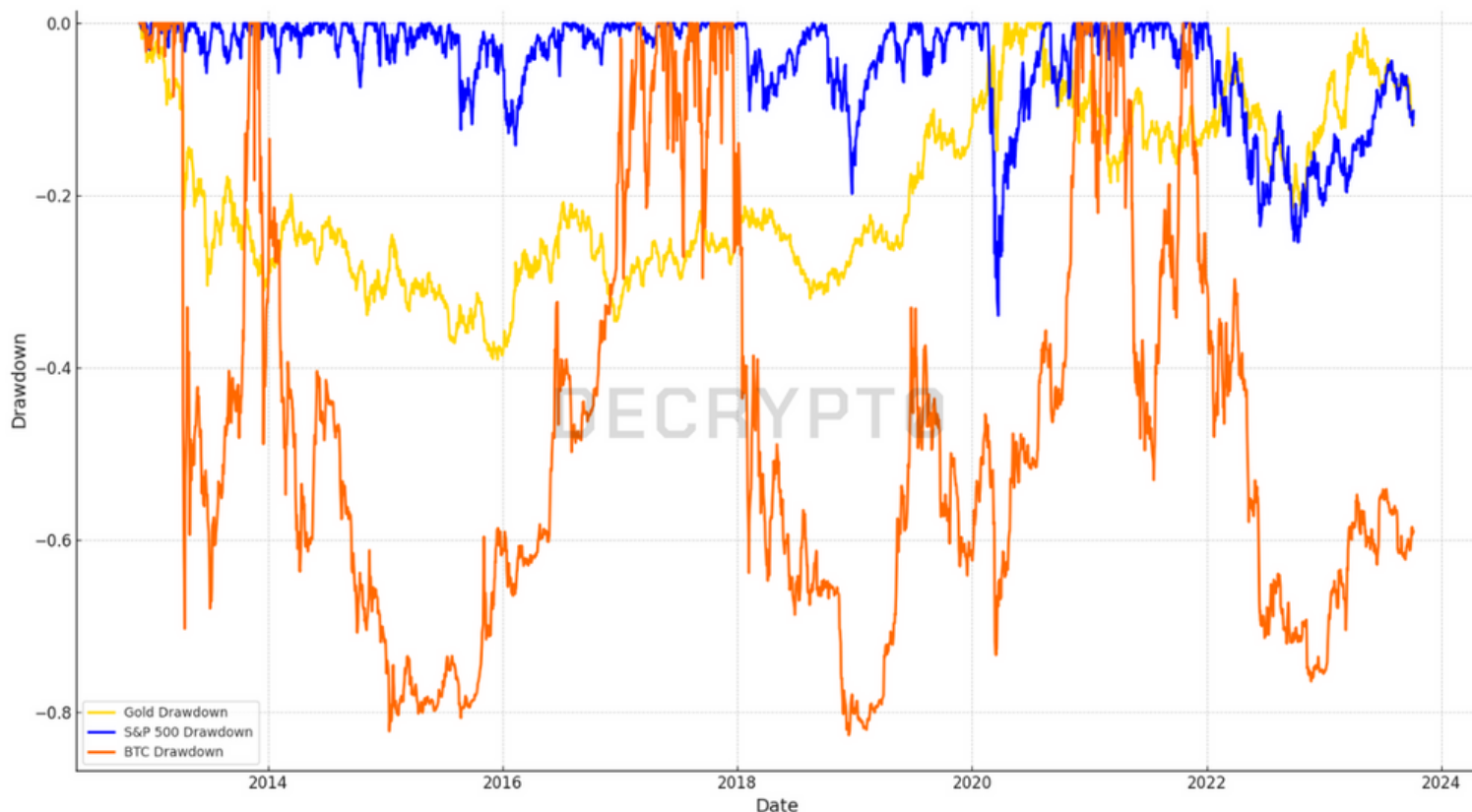
Source: Dune (Andrea Venturelli), Wall Street Journal, World Gold Council

While Bitcoin's astonishing rise has commanded headlines and been the subject of countless discussions, the flip side of this success story is its drawdowns.

Bitcoin has seen drawdowns of tremendous magnitude over short periods, often triggered by events such as FUD (Fear, uncertainty and doubt), cyclical factors, regulatory news, or macroeconomic trends.

This behavior starkly contrasts with traditional assets, which usually have lower volatility and an historical range of data, charts, and indicators.

Drawdown BTC (●) vs S&P500 (●) vs Gold (●)



Source: Dune (Andrea Venturelli), Wall Street Journal, World Gold Council

The S&P 500, an index often considered a barometer for the overall U.S. stock market, has experienced drawdowns but they are generally not as extreme or unpredictable as Bitcoin's. Equities are influenced by a variety of factors including economic indicators, corporate earnings reports, and geopolitical events. However, they usually don't experience the sort of rapid and severe drawdowns common to Bitcoin.

Similarly, gold, often considered a 'safe haven' asset, also experiences drawdowns but these are usually far less severe than those seen in the cryptocurrency market. Gold's long-standing position in human history and its widespread acceptance as a store of value lend it a stability that Bitcoin does not yet possess.

In many ways, Bitcoin is a double-edged sword: its potential for high returns comes at the cost of increased risk and volatility.

In the following chapter, we will explore the relationship between these three different asset classes.

S&P500 Correlations

This chapter aims to explore the 90-day rolling returns correlations between Bitcoin and S&P500, delving into periods of high and low correlation and examining the factors that might influence these relationships.

Methodology

To conduct this analysis, daily closing prices of Bitcoin, gold, and the S&P 500 index were used.

The 90-day rolling correlation on returns was calculated for Bitcoin against gold and the S&P 500. Correlation values range from -1 to 1, where -1 represents a perfect negative correlation, 1 signifies a perfect positive correlation, and 0 indicates no correlation.

To make our analysis more comprehensive and data-rich, we have divided Bitcoin's history into epochs, based on its halving cycles. A "halving" in the Bitcoin network is an event where the rewards for mining new blocks are halved, thereby reducing the rate at which new Bitcoins are created. Here is how we define the epochs:

Epoch 0: which starts on January 3, 2009—the day Bitcoin was launched—has been excluded for lack of data and statistical relevance in most of the charts.

Epoch 1: starts on November 28, 2012

Epoch 2: starts on July 9, 2016

Epoch 3: starts on May 30, 2020

S&P500 and Bitcoin 90-day Rolling Correlation

The correlation between Bitcoin and equity markets, notably the S&P 500 index, has been an area of intense study and interest. This chapter aims to unpack the evolving correlation dynamics between Bitcoin and the S&P 500, with special attention to the periods around Bitcoin's halving events.

A 90-day rolling correlation on returns metric provides useful insights into the dynamic relationship between Bitcoin and the S&P 500.

While the period before 2019-2020 showcased a largely inconsistent and negligible correlation, the **post-2019 data reveals a more pronounced and increasing relationship.**

However, it's crucial to note that despite this trend of increased correlation, the present-day figure stands at zero, underscoring the variable nature of this relationship.

90d rolling correlation BTC and S&P500



Source: Dune (Andrea Venturelli), Wall Street Journal

Correlation During Halving Cycles

An average 90-days rolling correlation on returns between Bitcoin and S&P500 each four-year halving period:

1st Epoch: 0.055

2nd Epoch: -0.013

3rd Epoch: 0.179

As Bitcoin becomes increasingly accepted in mainstream financial systems, and institutional investor participation rises, its market behavior appears to mirror that of traditional assets more closely.

The increasingly positive correlation in the current epoch suggests that Bitcoin and the S&P 500 are becoming susceptible to similar macroeconomic variables, such as interest rates, inflation, and geopolitical events. This development can be viewed as Bitcoin's maturation as a financial asset and emphasizes the growing influence of macroeconomic elements on its price.

However, the current zero correlation warns against drawing definitive conclusions.

It demonstrates the asset's fluctuating behavior, which may or may not continue to align with traditional markets in the future.

90d rolling correlation BTC and S&P500

1st Epoch (●) vs 2nd Epoch (●) vs 3rd Epoch (●)



Gold and Bitcoin

90-day Rolling Correlation

Originating as a purely digital asset, it has often been likened to gold, one of the most ancient and enduring stores of value. The frequent comparisons between Bitcoin and gold prompt many investors and analysts to explore the correlation between these two assets.

Is Bitcoin truly the "digital gold" that it is often touted to be, or is this comparison merely a poetic exaggeration?

The 90-day rolling correlation gives us an idea of how closely the returns of Bitcoin and gold follow each other over a 90-day period.

Interestingly, the 90-day correlation offers a dynamic portrait of the relationship between these two assets, with spikes in correlation occurring at specific times, such as the COVID-19 market crash in 2020. However, **it's worth noting that during bull markets, the correlation often dips into negative territory.**

90d rolling correlation BTC and Gold



Correlation During Halving Cycles

To dig deeper, one can look at Bitcoin's "halving" cycles as we define "Epochs", which are roughly four-year periods that start from each Bitcoin halving event.

The average 90-day rolling correlations on returns between Gold and BTC during each Bitcoin halving period have been:

1st Epoch: -0.016

2nd Epoch: 0.072

3rd Epoch: 0.090

The numbers make it abundantly clear that there is no consistent correlation between Bitcoin and gold.

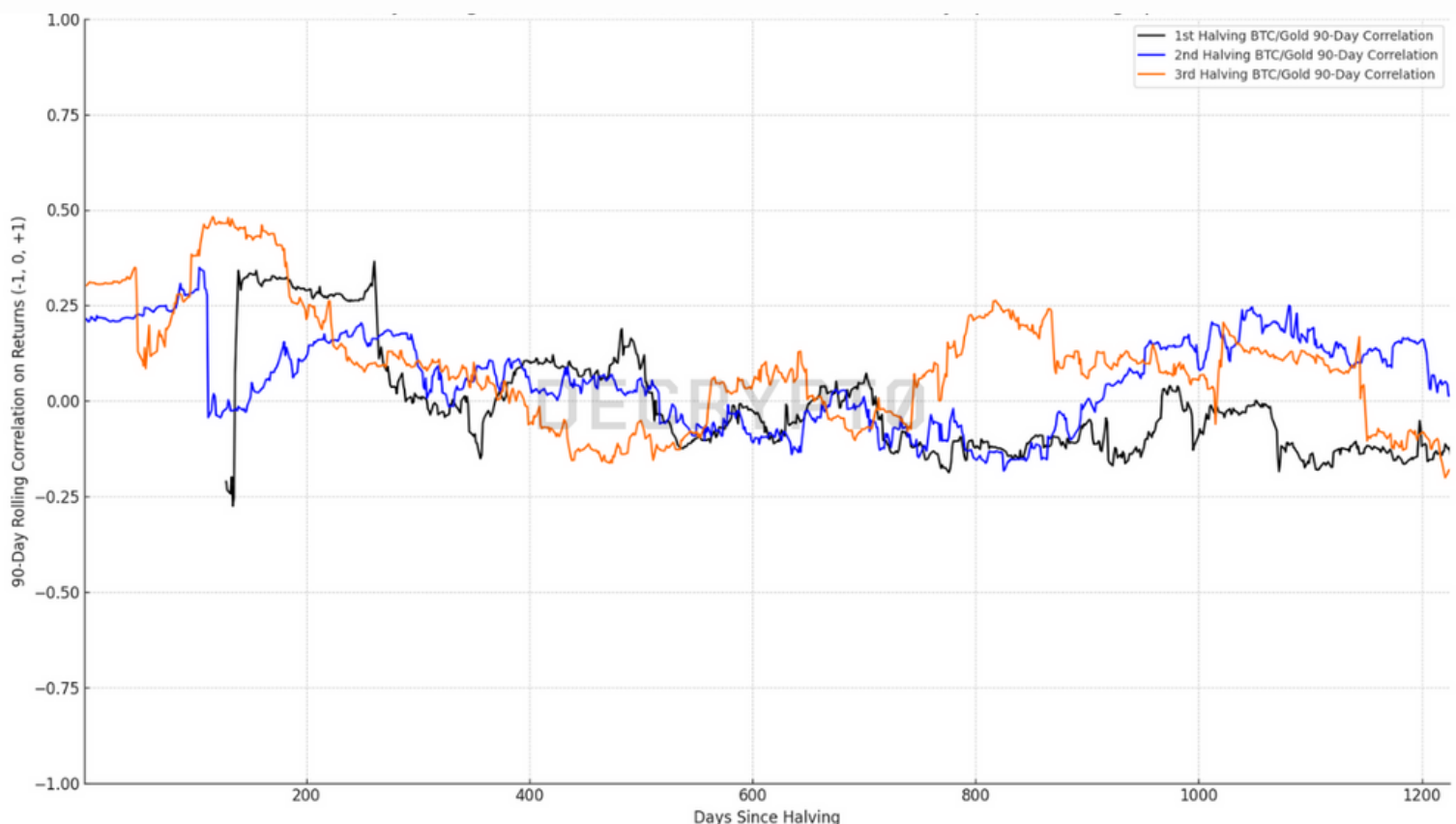
The inconsistent rolling correlation between Bitcoin and the S&P 500, along with Bitcoin's complete independence from gold, adds a layer of complexity to investment strategies.

Yet, this decorrelation also makes Bitcoin an intriguing prospect for diversification.

As a decorrelated asset, Bitcoin could serve as a strategic component in a balanced, diversified portfolio, offering potential benefits in terms of risk mitigation and returns.

90d rolling correlation BTC and Gold

1st Epoch (●) vs 2nd Epoch (●) vs 3rd Epoch (●)



Source: Dune (Andrea Venturelli), World Gold Council

Futures

The futures market for Bitcoin experienced a meteoric rise during the bullish phase of 2021. The concept of cryptocurrency futures is relatively new; CME launched its futures in December 2017, and BitMEX quickly gained traction, becoming the largest crypto exchange by volume for perpetual futures in 2018.

Fast-forward to 2021, and the futures market, especially in perpetual futures, witnessed an unprecedented surge in activity.

Open Interest, a measure of the total number of outstanding derivative contracts, soared to an impressive \$25 billion in 2021.

This figure aggregates data from several major exchanges, including Binance, BitMEX, Bybit, OKX, Deribit, Kraken, Bitfinex, Huobi, Bitget, dYdX, and CoinEx.

Price (●) and Open Interest Futures (●)



Source: Coinglass

The scale of this market has grown to the extent that its volumes have even surpassed on-chain transaction volumes in the past year. To illustrate:

Last 3-Month Average Volume:

- "Futures Volume": Approximately \$53.6 billion
- "On-chain": Approximately \$20.9 billion

Last 365-Days Total Volume:

- "Futures Volume": Approximately \$25.3 trillion
- "On-chain": Approximately \$8.6 trillion

In the following chart, the volume of futures and on-chain transactions is displayed with a 30-day moving average.

Price and 30d MA Futures (●) vs On-Chain (●) Volume



A key metric to consider in this derivatives market is the Estimated Leverage Ratio (ELR), calculated by dividing an exchange's open interest by its coin reserves.

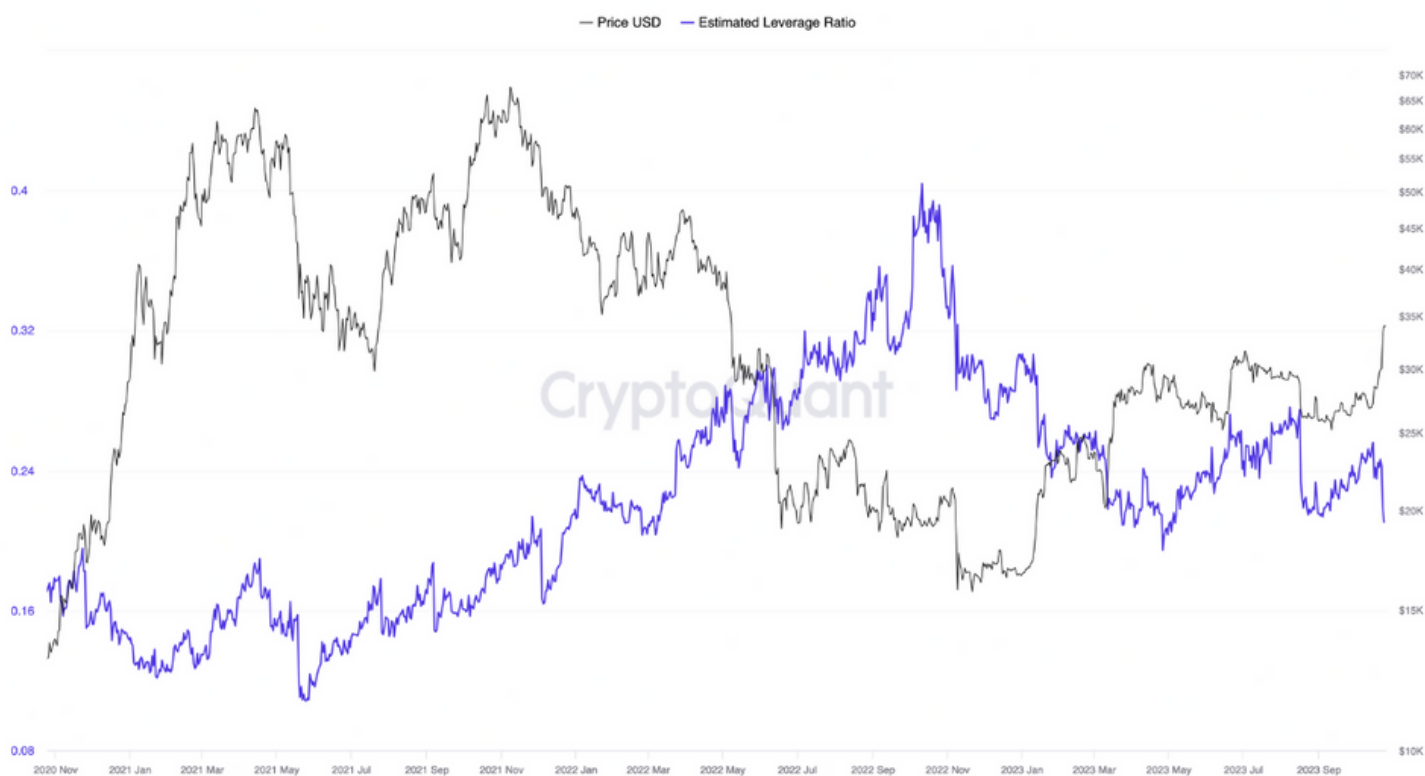
ELR serves as a barometer for market risk, giving us a snapshot of the average leverage used by traders on a platform. A rising ELR indicates that traders are increasingly relying on borrowed funds to make bets, thereby escalating market risk and potential instability.

The Estimated Leverage Ratio (ELR) has been seen to increase throughout the bear market of 2022, signaling a tendency for higher risk-taking among traders.

In conclusion, despite a 77% drop in Bitcoin's price in 2022 and a significant decline in Google search volumes, the futures market demonstrated more resilience than on-chain, in volumes.

Consequently, the resilience and sheer size of the **Bitcoin futures market, coupled with its surpassing of on-chain volumes, underscore its pivotal role in the broader Bitcoin ecosystem.**

Price (●) and Bitcoin Estimate Leverage Ratio (●) on Exchanges



Source: CryptoQuant

Part 2: On-Chain

Methodology

On-chain activities encompass all transactions and events that are recorded on the blockchain, which is essentially a public ledger for Bitcoin. Let's break down some key indicators to understand the current health and trends of the Bitcoin network.

To make our analysis more comprehensive and data-rich, we have divided Bitcoin's history into epochs, based on its halving cycles. A "halving" in the Bitcoin network is an event where the rewards for mining new blocks are halved, thereby reducing the rate at which new Bitcoins are created. Here is how we define the epochs:

Epoch Zero: which starts on January 3, 2009—the day Bitcoin was launched—has been excluded for lack of data and statistical relevance in most of the charts.

1st Epoch: starts on November 28, 2012

2nd Epoch: starts on July 9, 2016

3rd Epoch: starts on May 30, 2020

The Race to Halving

We refer to the "race to halving" to the 365 days leading up to a halving event, a period historically known as bullish. For instance, during the 365 days prior to each halving event, the price performance of Bitcoin has shown remarkable changes:

Epoch Zero: 380.3%

1st Epoch: 140%

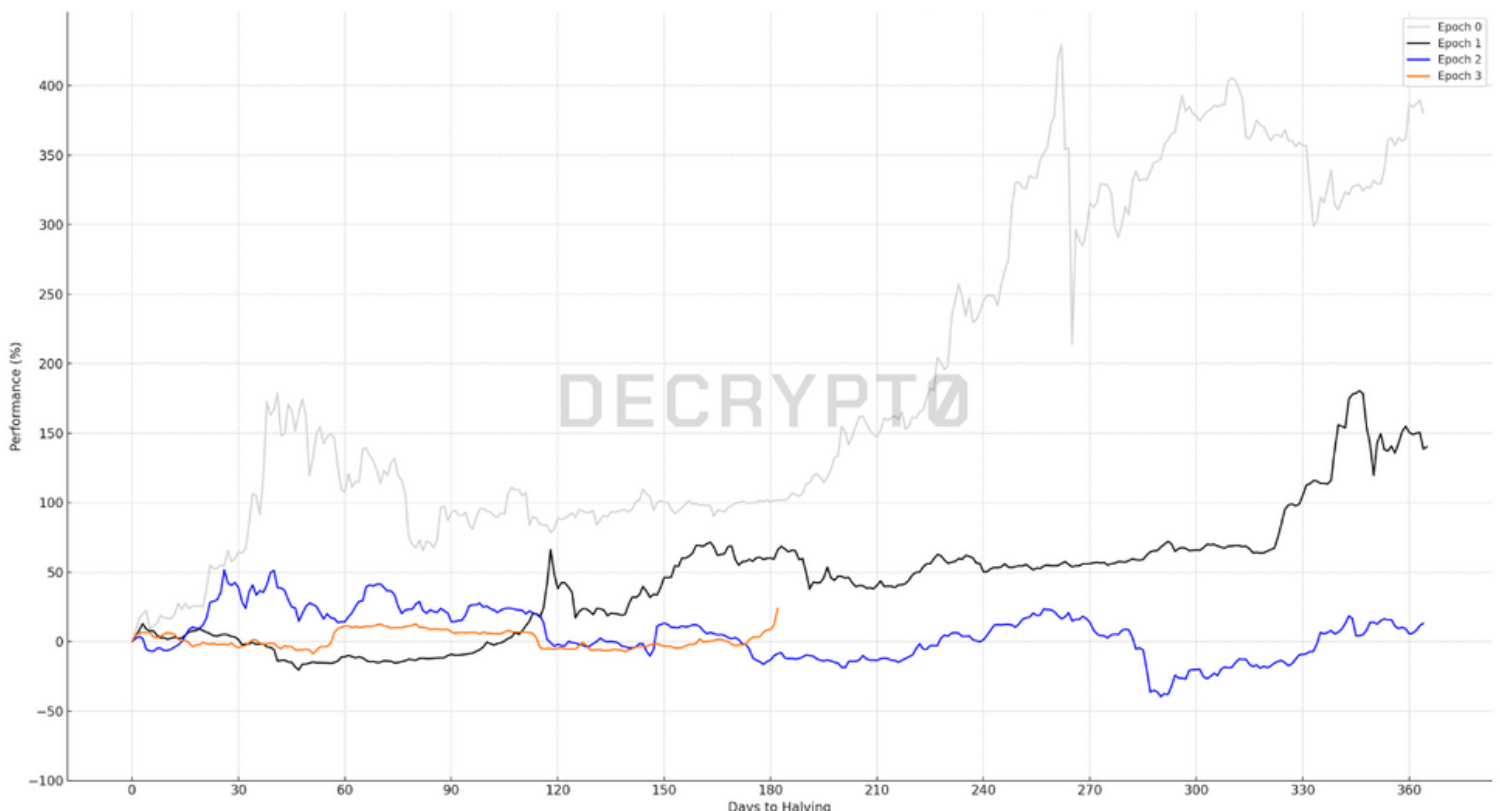
2nd Epoch: 13.1%

3rd Epoch: Ongoing (23.7% Date as of October 25, 2023)

These percentages showcase that each epoch has its own distinct characteristics, making it clear that the historical race to halving has been a good period for accumulation.

BTC price performance 365d before each halving

Epoch Zero (●) 1st Epoch (●) vs 2nd Epoch (●) vs 3rd Epoch (●)



Source: Dune (Andrea Venturelli)

Cohorts

An intriguing pattern that emerges from the on-chain data is the way various investor cohorts strategize their holdings and trades. This is particularly evident when we analyze the behavior of entities with different sizes of Bitcoin holdings.

Small Investors <1 BTC

Individuals with smaller holdings of less than 1 Bitcoin have exhibited a consistent buying behavior irrespective of market conditions in the last 5 years —both during bullish and bearish phases.

Their primary objective is to maximize risk-adjusted returns over the long term. This cohort is known for its unwavering accumulation strategy, even during downturns and in the months leading up to a halving event.

Their approach can be best described as a long-term DCA investment strategy.



Source: Glassnode

Mid-Tier Investors 10-100 BTC

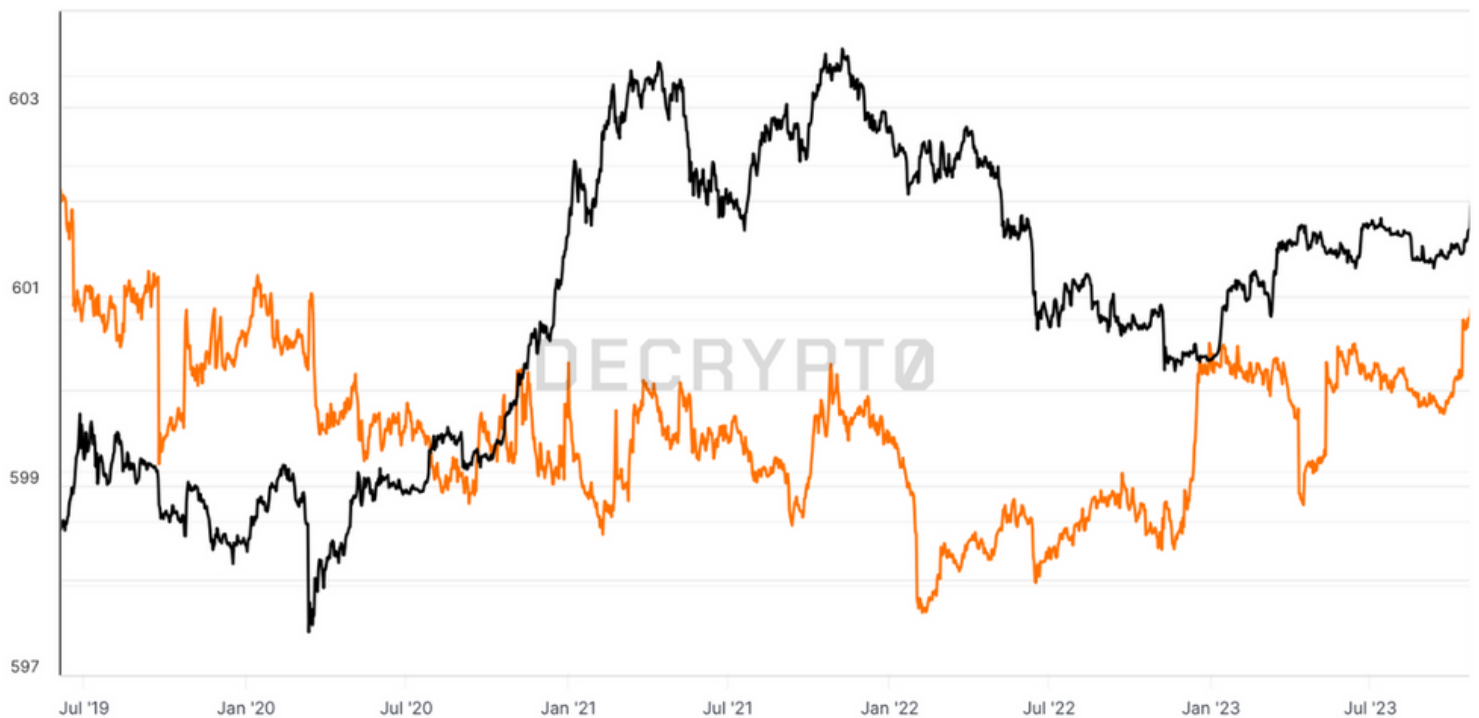
Investors holding 10-100 BTC have shown a more balanced strategy.

These entities distributed their holdings during the bull cycle of Q1-Q2 2021 but were seen accumulating Bitcoin during the bearish phase of 2022.

This demonstrates a somewhat active market timing approach, albeit not as aggressive as entities holding larger amounts.



Source: Glassnode



Source: Glassnode

Large Investors 100 - 1000 BTC

Entities falling within this bracket of 100 to 1000 BTC have exhibited a notably active trading strategy, seemingly adjusting their positions more frequently based on market conditions.

This indicates a very calculated approach to market timing, capturing significant profits within short periods.

While these observations provide invaluable insights into market behaviors and strategies, it's critical to note that the data is subject to anomalies. The count of different large holding wallets over time may present inconsistencies, often due to internal movements within exchanges or other large entities.

To summarize, **the strategy an entity employs appears to be directly proportional to the amount of Bitcoin they hold.**

Smaller investors usually aim for long-term accumulation, while larger holders tend to have more active and dynamic strategies that change based on market conditions.

As Bitcoin continues to mature and potentially integrate more financial products like ETFs, understanding these nuanced behaviors will be increasingly essential for both individual and institutional investors.

On-Chain Users Behavior

Active Addresses Across Epochs

The Bitcoin network has seen a gradual increase in the number of active addresses over its three epochs:

1st Epoch: Early adoption phase, characterized by approximately 150,027 active addresses.

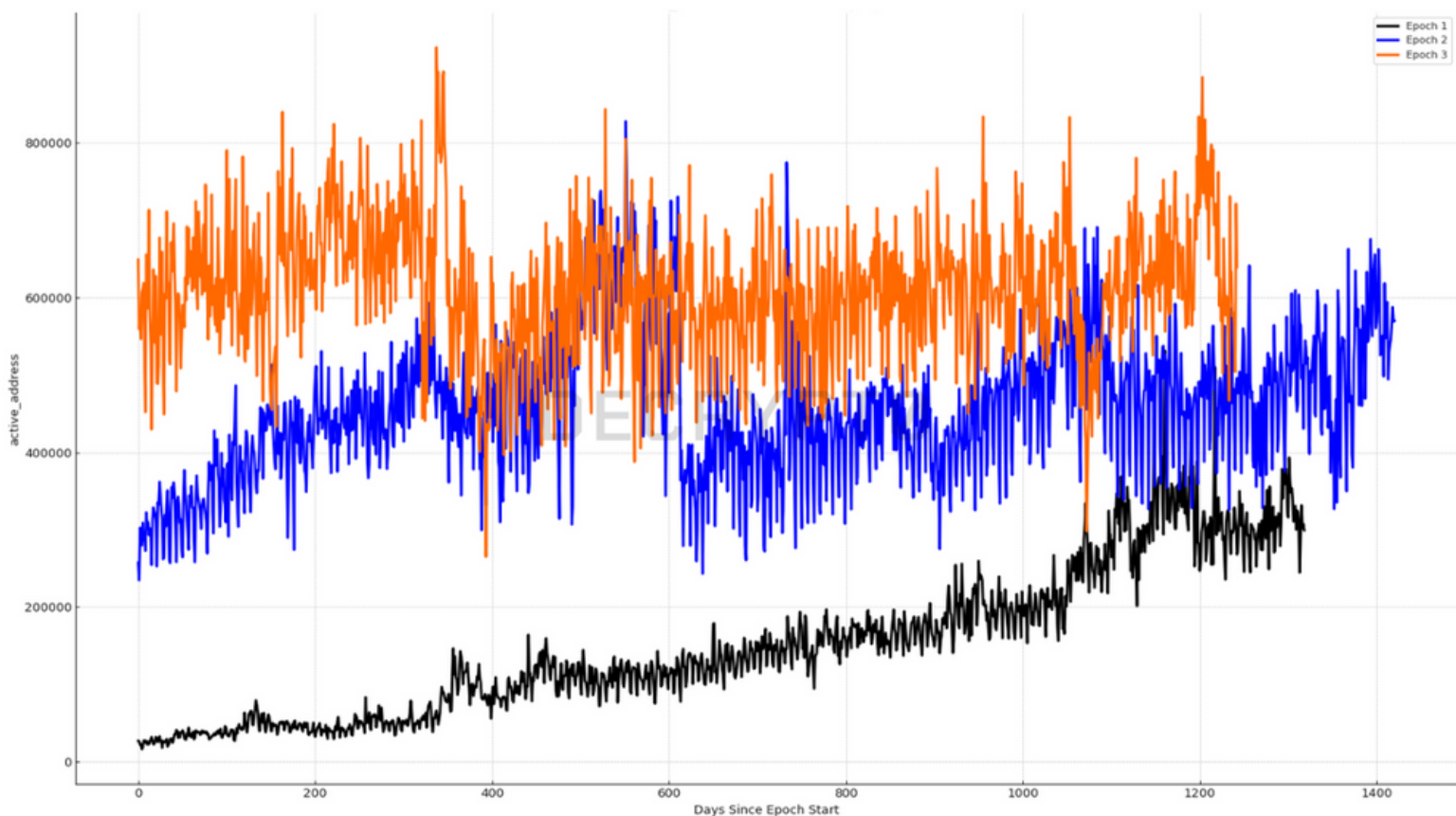
2nd Epoch: Growth and maturation phase, with roughly 458,537 active addresses.

3rd Epoch: Current consolidation phase, featuring about 609,196 active addresses.

Before diving into the analysis, it's essential to define what we mean by "active addresses." In the context of Bitcoin, an active address refers to a public key used to send or receive transactions within a given period, usually measured daily.

Active Addresses by Epoch

1st Epoch (●) vs 2nd Epoch (●) vs 3rd Epoch (●)



Source: Dune (Andrea Venturelli)

Growth Rate

Despite a 77% price drop and a decrease in public interest during bear market conditions, the number of active addresses has remained fairly stable. This resilience is indicative of a strong, loyal user base that continues to find value in using the Bitcoin network, irrespective of market sentiments.

Interestingly, the percentage increase in active addresses from Epoch 1 to Epoch 2 was approximately 205.64%. However, the increase from Epoch 2 to Epoch 3 was markedly lower at 32.86%.

Several factors may have contributed to this deceleration:

01 **Shift in Narrative**

Originally envisioned as a peer-to-peer electronic cash system, Bitcoin has undergone a transformation in public perception, increasingly being seen as a 'store of value.' This shift in narrative affects how people use Bitcoin, with fewer addresses being used for daily transactions and more for long-term holding.

02 **Centralization in Exchanges**

A growing tendency among users is to keep their Bitcoin holdings in centralized exchanges rather than private wallets. This trend impacts the number of active on-chain addresses, as funds parked in exchanges often stay put, reducing on-chain activity.

03 **Advent of the Lightning Network**

The introduction of Bitcoin's second layer, the Lightning Network, allows for faster and cheaper transactions by processing them off-chain. While this is a boon for scalability and efficiency, it has the side effect of diminishing the number of active on-chain addresses, as more transactions occur off-chain.

Transactions and Their Sensitivity to Market Conditions

The number of transactions on Bitcoin's blockchain serves as an invaluable metric for analyzing the cryptocurrency's performance, adoption, and network activity. As the blockchain evolves, so does the transaction count, responding not only to price volatility but also to technological advancements and shifts in usage patterns.

For the sake of clarity, let's first define what a 'transaction count' means in the context of Bitcoin. It refers to the total number of transactions processed and confirmed by the Bitcoin network within a specific timeframe, often measured on a daily basis.

Here are the average daily transaction counts for the three different epochs:

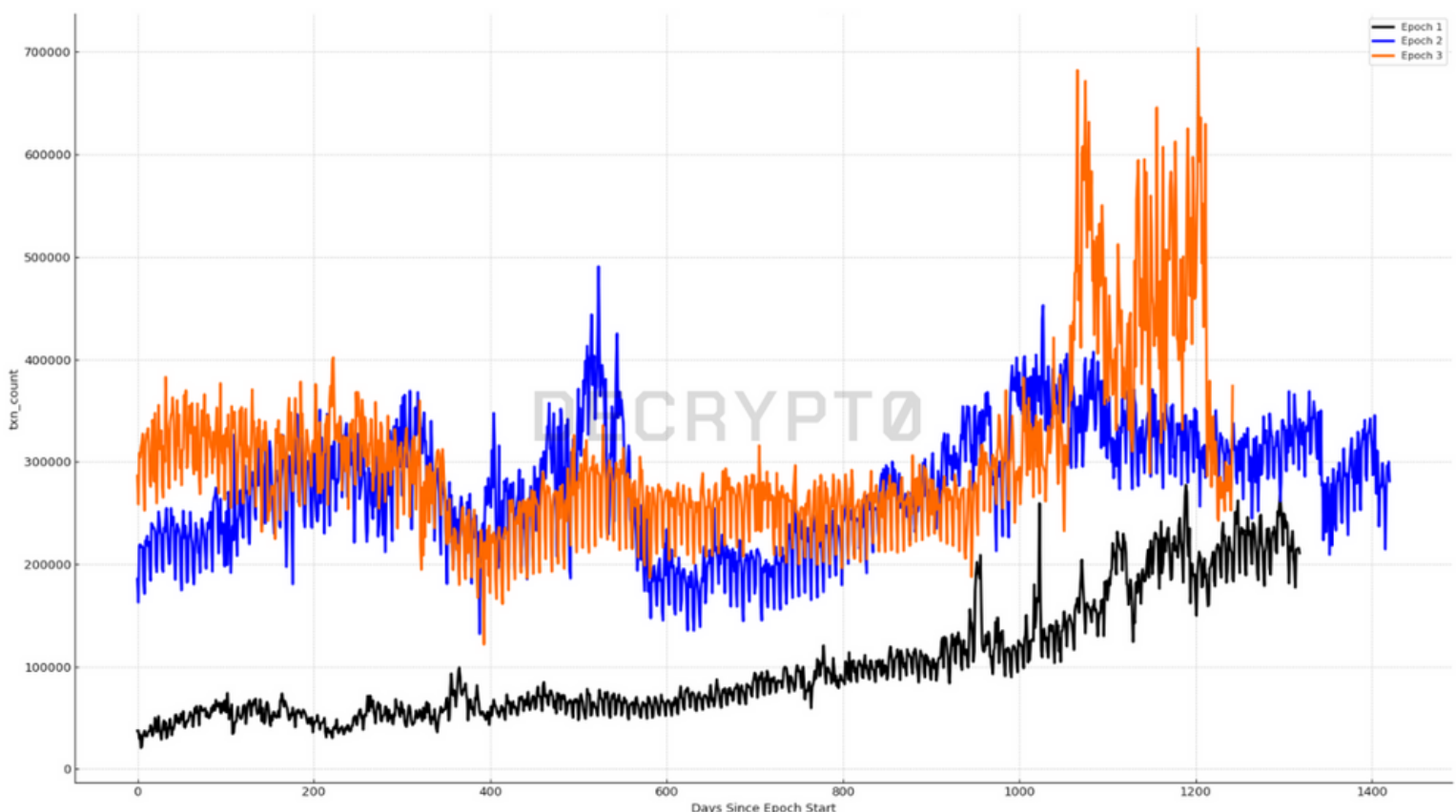
1st Epoch: Approximately 100,029 daily transactions on average

2nd Epoch: Approximately 276,543 daily transactions on average

3rd Epoch: Approximately 301,268 daily transactions on average

Transaction Count by Epoch

1st Epoch (●) vs 2nd Epoch (●) vs 3rd Epoch (●)



Source: Dune (Andrea Venturilli)

Growth Rate

From 1st Epoch to 2nd Epoch: The transaction count increased by around 176.46%.

From 2nd Epoch to 3rd Epoch: The growth slowed to approximately 8.94%.

The main factor that may have contributed to this deceleration is the shift to Off-Chain Transactions

The considerably smaller growth from 2nd Epoch to 3rd Epoch can be partly explained by the movement of small transactions to off-chain solutions.

According to the River Financial Report, approximately 6.6 million Lightning transactions occurred in August, representing a stunning 1,212% increase from the same month in 2021. This off-chain activity equates to about 2.5 transactions per second, as opposed to an on-chain average of 4.4 transactions per second.

Established in 2018, the Lightning Network already processes nearly half as many transactions per second as Bitcoin's main chain. This could signify a fundamental shift in how transactions are conducted on the network.

The impact of Ordinals

In 2023, the introduction of the 'Ordinals' on the Bitcoin network marked a significant departure from traditional transaction types, leading to a noteworthy increase in both transaction numbers and associated fees during Q1 and Q2.

This new use case expanded the utility of Bitcoin's blockchain, enabling it to be used for a broader range of applications beyond mere financial transactions. The result has been a surge in transaction count, making it an outlier in the data when compared to the general trend observed in previous epochs.

Average Transaction Value on the Bitcoin Network

One intriguing metric worth examining is the average value of transactions in United States dollars (USD) across these periods.

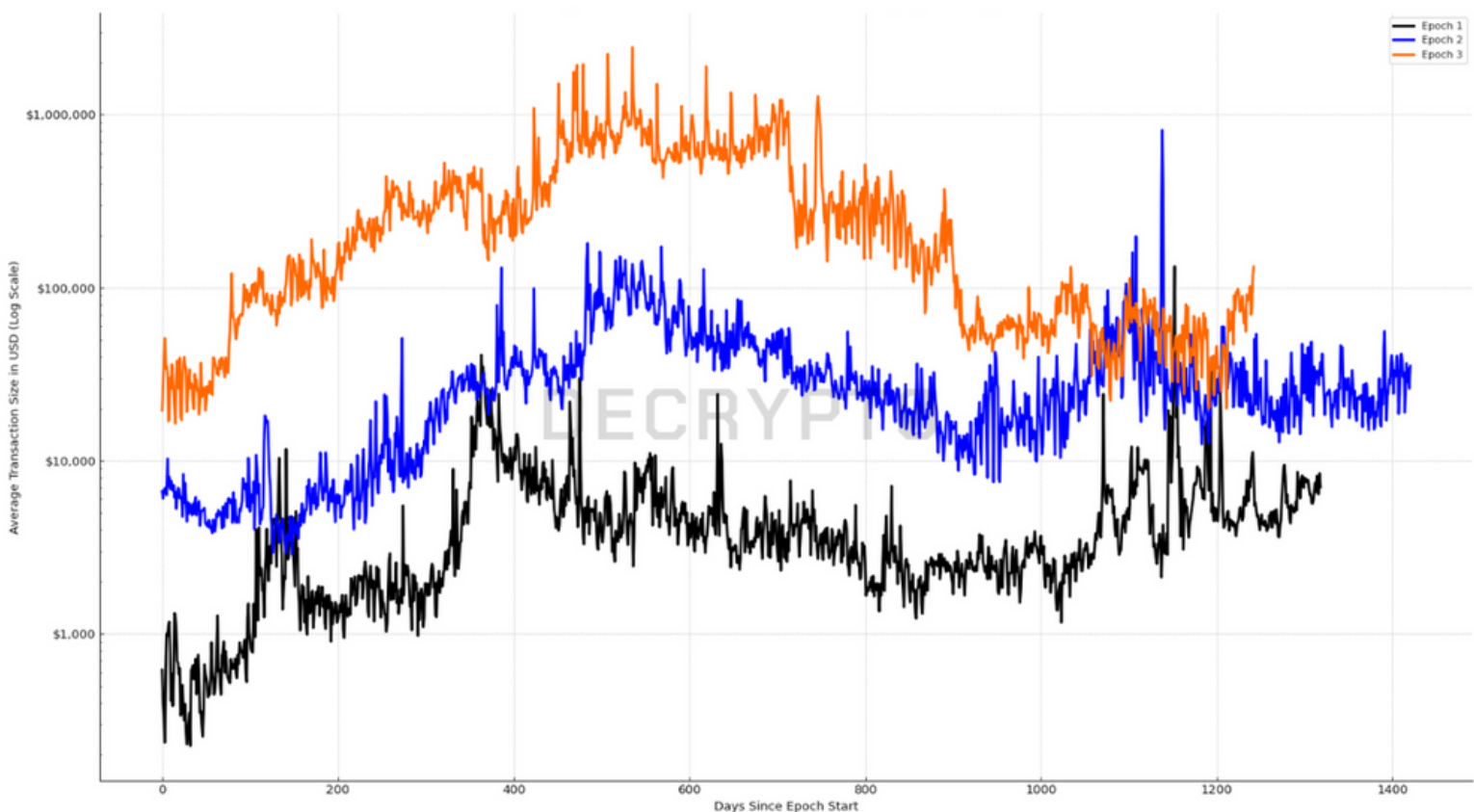
1st Epoch: The average transaction value was approximately \$4,613.

2nd Epoch: The average transaction value rose to about \$31,293.

3rd Epoch: The average transaction value skyrocketed to an estimated \$295,252.

Average Transaction Size in USD by Epoch

1st Epoch (●) vs 2nd Epoch (●) vs 3rd Epoch (●)



Source: Dune (Andrea Venturelli)

Growth Rate

The growth rate from 1st Epoch to 2nd Epoch is approximately 578.22%, while the rate from Epoch 2 to Epoch 3 is a staggering 843.67%.

The substantial increase in the average transaction value from 1st Epoch to 3rd Epoch serves as a testament to the growing confidence that operators have in the Bitcoin network. **As the network matures, it is perceived to be a safer place to move significant sums of money.**

Market Cycles and Their Influence

The average transaction value in USD is not merely influenced by the network's growth but also by the market cycles that Bitcoin undergoes. Research indicates a pattern where, from day zero of each halving event to day 500—usually correlating with bullish phases of the last three cycles—the average transaction value increases. This is followed by a decrease during bearish market phases.

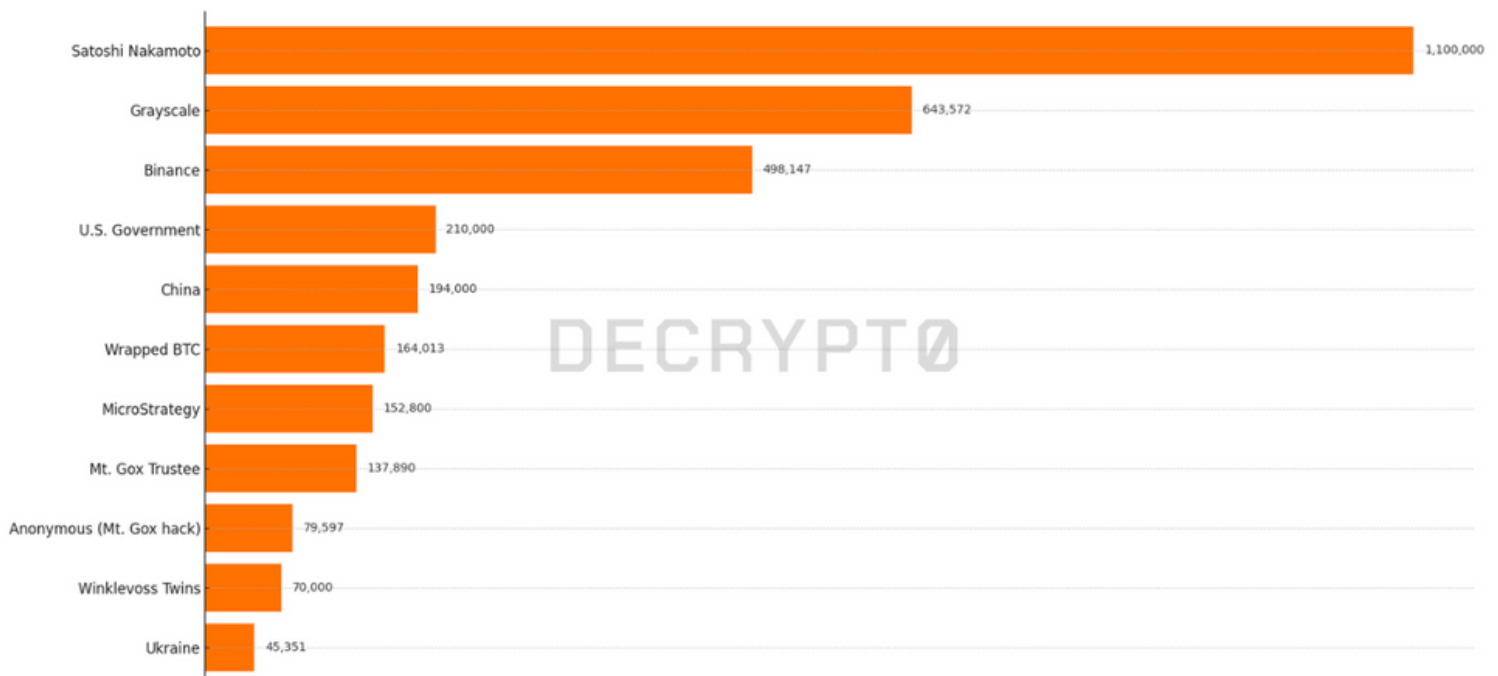
Bitcoin Whales

In the cryptocurrency ecosystem, the term "whales" refers to individuals or entities that hold large amounts of digital assets. These whales wield considerable influence over the market, and their actions can have immediate and profound impacts on the price of Bitcoin and other cryptocurrencies.

These figures underline the sheer magnitude of the holdings of these entities, who, combined, control a significant portion of the Bitcoin market.

As of current data, the top Bitcoin whales and their approximate holdings are:

**The number of Bitcoin held by Satoshi is unconfirmed*



Source: Glassnode, Dune (21.co), Arkham Intelligence

Network Health

The Bitcoin network is on the verge of its 4th halving event. This event will bring the block rewards for miners down from 6.25 BTC to 3.125 BTC per block, adhering to Bitcoin's pre-coded economic model that extends for the next century.

The Bitcoin network was designed to be a deflationary system, with a hard cap of 21 million coins. The halving events—where block rewards are halved—occur approximately every four years.

BTC Block Rewards and supply 2008-2140



Source: Dune (Hildobby)

On-Chain Challenges

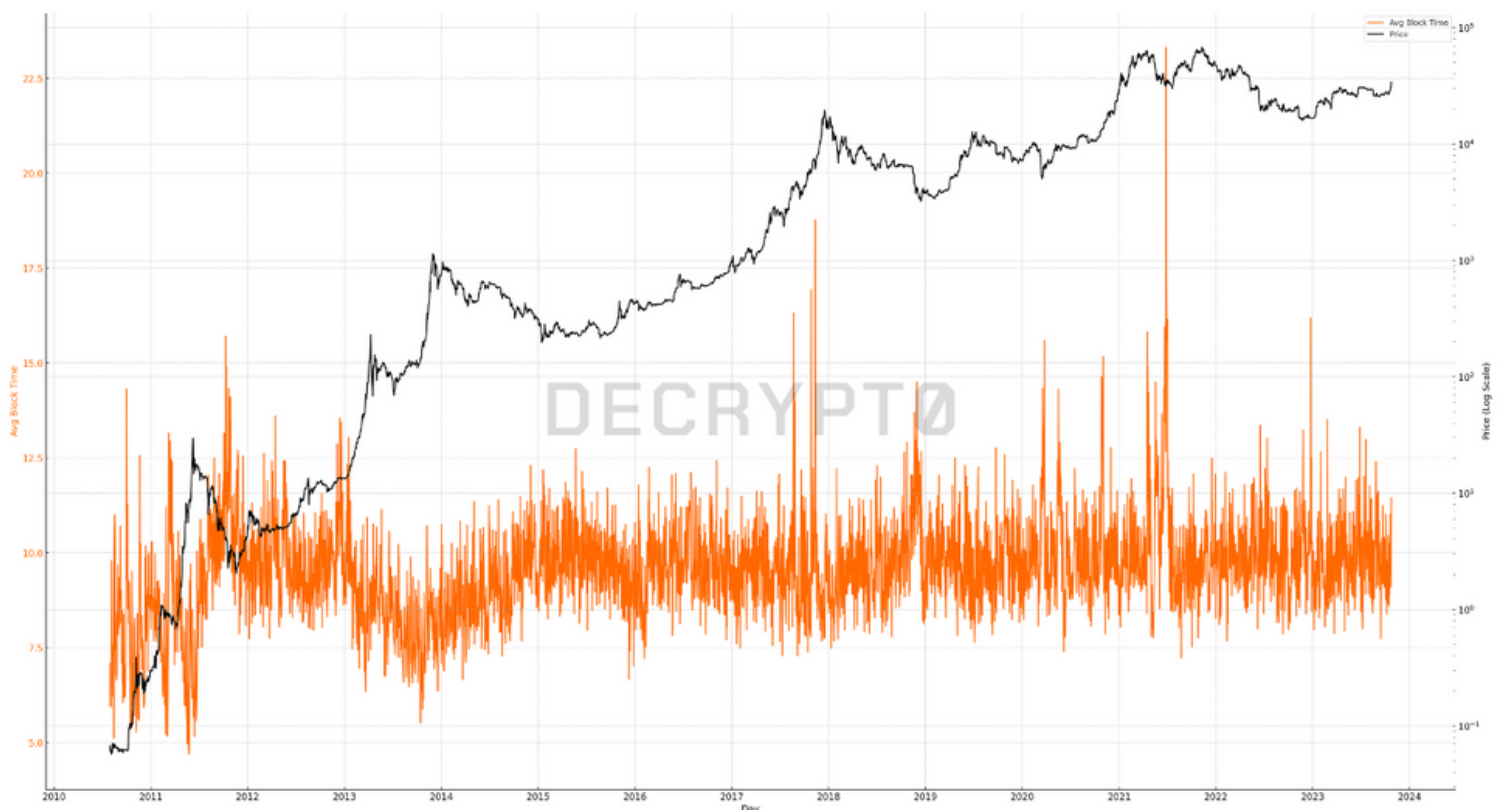
On June 27, 2021, the Bitcoin network underwent a historical upheaval due to a substantial adjustment in its mining difficulty level. This was a direct consequence of China's intensified measures to eliminate Bitcoin mining activities within its borders. The resulting exodus of miners had a drastic effect on the network's overall hash rate, a metric that quantifies the computational power committed to maintaining the blockchain.

The data points illustrate a precipitous decline in the hash rate—plummeting by 40% within just a month and further extending to a staggering 60% drop over a period of six weeks.

This unprecedented reduction in computational input forced the network to recalibrate its mining difficulty to such an extent that it affected the time required to produce new blocks on the blockchain.

Traditionally, the Bitcoin network aims to maintain a stable block time of approximately ten minutes. However, on June 27, 2021—the same day the difficulty was adjusted—the average time for mining a new block soared to more than 23 minutes. This set a new record for the longest average block time in the entire history of Bitcoin, underscoring the gravity of the challenges that the network was contending with at that time.

Average Block Time



Source: Dune (Andrea Venturelli)

The Exodus from Exchanges

March 12, 2020, serves as a pivotal moment in the history of Bitcoin for two key reasons: First, the COVID-19 crash led to a staggering 50% loss in value for Bitcoin within a 24-hour period. Second, up until that date, the amount of Bitcoin stored on various cryptocurrency exchanges had been on a consistent upward trajectory, reaching a peak of approximately 3,234,458 BTC, which equates to around 17.7% of Bitcoin's total supply.

The subsequent months and years witnessed a tectonic shift in this pattern as users increasingly pulled their Bitcoin holdings from exchanges. This significant behavioral shift has been accelerated by a variety of factors, from the anticipation of a market bull run to growing skepticism regarding the reliability of centralized exchanges.

BTC balance on all exchanges



Source: Glassnode

Net transfer volume from/to all exchanges



Source: Glassnode

Data from Glassnode depicts the clear trend of Bitcoin's exodus from exchanges. Particularly noteworthy are two crucial timeframes: the latter half of 2020, likely influenced by anticipation of a bullish market, and the entirety of 2022, which saw amplified outflows exacerbated by the collapse of FTX and ensuing market FUD (Fear, Uncertainty, and Doubt).

March 12, 2020, symbolizes the inflection point when exchanges started losing their pivotal role in the crypto industry. Subsequently, **the crypto narrative shifted towards self-custody, Bitcoin as a reserve of value, and HODLing.**

Simultaneously, the financialization of Bitcoin has been ramping up. More users are opting for various financial products such as futures, options, ETPs, and ETNs to gain exposure to the Bitcoin market.

This trend suggests that as more financial instruments like Bitcoin ETFs become available, the reliance on traditional crypto exchanges could decline even further.

This transformative period is expected to culminate with the launch of Bitcoin ETFs, and, we believe, the conclusion of the programmatic four-year market cycle characterized by bull runs and bear markets. Given the monumental shifts that we are observing, we refer to this new phase as "The Last Dance."

Conclusions

Beyond ETFs

As extensively analyzed in this report, **the approval of Bitcoin Exchange-Traded Funds (ETFs) would symbolize a tectonic shift in the cryptocurrency landscape.** The reason is simple: such approval would pave the way for a considerable influx of capital from both retail and institutional investors, thereby disrupting the traditional cyclical nature of the Bitcoin market. Estimates indicate that ETF approval could result in billions of dollars of new investments in the years that follow.

With the advent of centralized exchanges, followed by Over-the-Counter (OTC) desks, margin trading, perpetual futures, and potential ETFs, **one naturally wonders what could be the next milestone that infuses even more liquidity into the Bitcoin market.**

The speculative answer to this question appears to lie with central banks, the entities theoretically capable of injecting billions, or even trillions, more into Bitcoin.

It's important to emphasize that the notion of central banks investing in Bitcoin remains purely speculative at this stage. While the idea is not entirely implausible given Bitcoin's growing status as an asset class, it is still far from a confirmed reality.

The landscape of possibilities for Bitcoin is broad and ever-evolving. While the approval of ETFs would undeniably be a watershed moment, the future may hold other, yet unknown, catalysts for liquidity.

Conclusions

The Last Dance

It's crucial to understand that the mechanisms propelling Bitcoin's market cycles have evolved significantly over the years. While the halving of miner rewards—a reduction of the Bitcoin generated for miners that occurs every four years—played a seminal role in the cryptocurrency's initial price and market cycles, we argue that this factor is no longer the driving force it once was.

In this report, we introduced the concept of "The Last Dance," which we interpret as a shift away from Bitcoin's predictable four-year cycles of high volatility, marked by extreme bull and bear markets. This shift can be attributed to a host of contributing factors, most notably the development of derivative markets for Bitcoin, increasingly advanced trading strategies, ETFs, and its growing correlation with traditional assets like equities and gold.

In conclusion, as Bitcoin continues to mature, its cycles are becoming less formulaic and more influenced by a complex interplay of internal and external factors. While this evolution could offer opportunities for diversification and hedging, it also exposes Bitcoin to a new set of risks and uncertainties that market participants must be prepared to navigate.

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