



# Unraveling Cryptocurrency Pricing Dynamics

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## Executive Summary

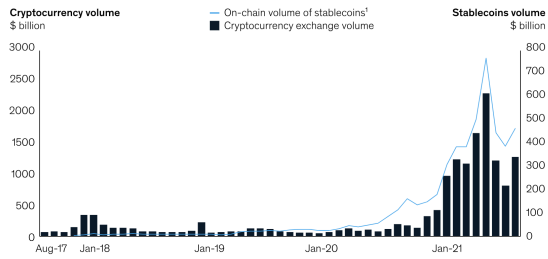
The digital currency landscape has witnessed remarkable growth since the inception of Bitcoin in 2009, with the collective market value of cryptocurrencies surpassing \$2 trillion. Despite this, challenges such as extreme price volatility and slow transaction speeds have hindered widespread adoption. The rise of stablecoins, pegged to underlying assets and backed by reserves, has sought to address these issues, with nearly \$3 trillion transacted in the first half of 2021. Bitcoin, as the pioneer cryptocurrency, has seen increasing institutional adoption driven by factors including regulatory clarity, product availability, and the search for portfolio diversification. Its market capitalization, along with other leading cryptocurrencies like Ethereum and Binance Coin, now constitutes a significant portion of the overall market.

Bitcoin's volatility, with an annualized rate far exceeding traditional assets like equities or gold, poses both challenges and opportunities for investors. Studies indicate that during periods of heightened economic policy uncertainty, particularly in countries like Singapore and financial instability, cryptocurrencies become increasingly correlated with fluctuations in public equities prices. Additionally, the upcoming halving event scheduled for April 19, 2024, presents a potential for a post-halving uptrend, historically associated with increased scarcity and value appreciation. Understanding these dynamics is crucial for wealth managers and investors seeking to navigate the complexities of the cryptocurrency market and develop informed investment strategies amidst regulatory uncertainties and market volatility.

## The Digital Currency Landscape

The basic notion of a digital currency (replacing the need for paper notes and coins as a means of exchange with computer-based money-like assets) dates back more than a quarter century. Early efforts at creating digital cash—such as DigiCash (1989) and e-gold (1996)—were issued by central agencies. The emergence of Bitcoin in 2009 dramatically altered this model in two important ways: by establishing a decentralized (blockchain-based) ledger for transaction execution and record keeping and by creating a (now) widely traded currency outside the control of any sovereign monetary authority. Thousands of similar decentralized cryptocurrencies now exist, collectively generating billions of dollars in global transaction volume every day.

Although the aggregate market value of such cryptocurrencies now exceeds \$2 trillion, extreme price volatility, strong price correlation to Bitcoin, and often slow transaction confirmation times have impeded their utility as a practical means of value exchange. Stablecoins aim to address these shortcomings by pegging their value to a unit of an underlying asset, often issued on faster blockchains, and backing the coins wholly or partially with state-issued tender (such as the dollar, pound, or euro), highly liquid reserves (like government treasuries), or commodities such as precious metals. Collectively, nearly \$3 trillion in stablecoins such as Tether and USDC were transacted in the first half of 2021.



<sup>1</sup>Volume of stablecoins exchanged represents all transactions recorded on the relevant blockchains. These volumes are distinct from the volume of crypto traded on exchanges, some of which may be transacted between accounts off-chain.  
Source: Theblockcrypto.com

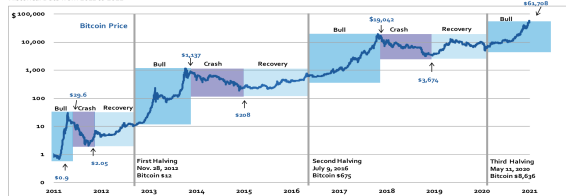
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## About Bitcoin

Bitcoin was the first cryptocurrency, designed in 2008 by an anonymous person or group named Satoshi Nakamoto, and launched on January 3, 2009. Since 2013, there has been increasing regulatory clarity. Financial products started trading in 2015, with derivatives shortly after in 2017. At the turn of 2020, several mainstream financial institutions began to integrate Bitcoin, and in 2021, Morgan Stanley was the first bank to allow investments in crypto for their high-net-worth clients.

The rate of growth in Bitcoin supply, or “**Bitcoin’s issuance**,” is **cut in half every four years** in an event called “the halving” or sometimes “the halving.” This **reduction in supply growth** was written into the software from the very beginning. Although there have only been three data points since the first halving, it is starting to seem like the halving causes the Bitcoin cycle of a **price spike** followed by a collapse.

<sup>3</sup> Cycles Have Occurred Historically That Seem to Arise Around the Halving...  
Historical Data from 2013 to 2021



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<sup>1</sup><https://www.mckinsey.com/industries/financial-services/our-insights/c-bdc-and-stablecoins-early-coexistence-on-an-uncertain-road>  
<sup>2</sup><https://advisor.morganstanley.com/mcqueary-schumm-munsell-group/documents/field/m/mc/mcqueary-schumm-group/Introduction%20to%20Cryptocurrencies.pdf>

At the turn of the decade, Bitcoin rallied, sparking interest among the entire crypto cohort, including (but not limited to) Ethereum, Binance Coin, and Tether. Together, they account for **~85% of the market cap for all cryptocurrencies**.

The institutionalization of Bitcoin has led to significant growth. There are four factors of institutionalization.

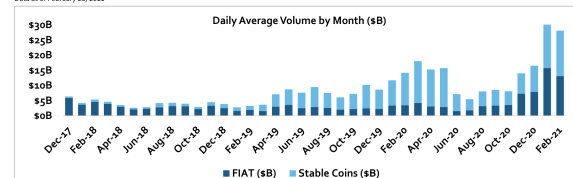
First is the **availability of products**. The broader adoption of digital wallets/payment systems is due to the need for contactless business models, which has been exacerbated by the COVID-19 pandemic.

The second is **improving regulatory clarity**. The emergency of regulatory guidelines is driving the swift availability of crypto products.

The third is **increasing liquidity**. A surge in policymaker-driven global liquidity rendered most traditional asset classes fully valued in a historical context.

The final is the **need for portfolio diversifiers**. A dwindling list of diversifying and uncorrelated assets: Long-term investors, pension funds with long-dated liabilities, and corporate treasurers naturally have begun to seek out new “stores of value,” and cryptocurrency has emerged as an option.

Growth of Cryptocurrency Exchange Traded Volume  
Data as of February 28, 2021



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The strong price appreciation, together with greatly increased trading volume, forced a material acceleration in crypto’s path toward financial market maturation. Currently, all cryptocurrencies have a market capitalization nearly the size of the entire

<sup>3</sup><https://advisor.morganstanley.com/mcqueary-schumm-munsell-group/documents/field/m/mc/mcqueary-schumm-group/Introduction%20to%20Cryptocurrencies.pdf>



high-yield bond market and half the size of the small-cap universe.

**Bitcoin is highly volatile.** Over the last five years, its annualized volatility has been 72%—roughly five times that of the equity market or gold. Furthermore, over the last five years, BTC has had little to no correlation with other major financial assets.



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## Crypto’s Correlations to Public Equities

According to a study done by the University of Queensland<sup>5</sup>, when Bitcoin uncertainty increases, it becomes more correlative with the stock market. The research aimed to find the effect of the stock market on Bitcoin during periods of turmoil. Based on their quantile regression results, the stock market’s return in the previous week significantly impacted Bitcoin returns during the high uncertainty periods. They found a volatility spillover effect from the stock market to Bitcoin during the COVID-19 pandemic and during other periods of high uncertainty. Therefore, the stock market and cryptocurrency are more correlated during periods of high uncertainty.

A study done by the New Jersey Institute of Technology<sup>6</sup> investigated the predictability of thirteen economic policy uncertainty indices

on Bitcoin returns. Using the Random Forest machine learning algorithm, they found that Singapore’s economic policy (EPU) has the strongest predictive power on Bitcoin returns, followed by financial crisis (FC) uncertainty and world trade uncertainty (WTU).

Interestingly, the predictability of uncertainty indices on Bitcoin returns within the international trade group is stronger compared to other uncertainty categories. Additionally, they observed that internet-based uncertainty measures have more predictive power of Bitcoin returns than newspaper and report-based measures.

This means that periods that are characterized by Singaporean economic policy, financial instability, and volatile global trade dynamics will usually make cryptocurrencies increasingly correlated to the fluctuation of public equities prices.

## Bitcoin Pricing Dynamics from Halving

Unlike Bitcoin uncertainty, halving provides a long-term prediction of Bitcoin pricing.

The idea of a post-halving uptrend has sizable warrants. First, the stock-to-flow scarcity metric will substantially exceed that of gold post-halving, making Bitcoin the hardest asset around and potentially causing a demand shock. Second, historical data shows that Bitcoin’s value has increased after every halving event.

The halving occurs every four years and cuts the fixed rewards for Bitcoin mining in half. It is a central element in Bitcoin’s economic model, controlling and slowing the rate at which new Bitcoins enter the market. Since it is a predictable four-yearly event, it has almost become a common practice to

<sup>4</sup><https://www.jpmorgan.com/insights/cryptocurrency/bitcoin/if-you-are-exploring-bitcoin-5-things-you-need-to-know>

<sup>5</sup><https://www.sciencedirect.com/science/article/pii/S1544612321003238#:~:text=Highlights&text=COVID%2D19%20is%20the%20period,found%20during%20high%20uncertainty%20periods.>

<sup>6</sup><https://www.mdpi.com/1911-8074/16/10/461>



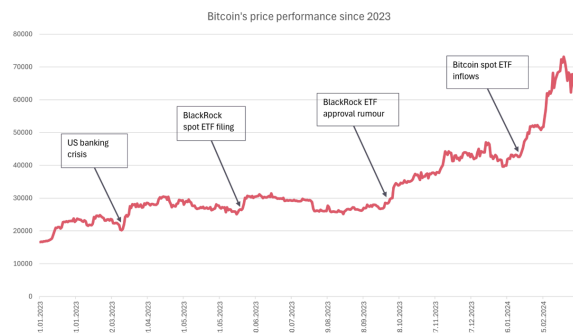
factor halving into Bitcoin forecasts and event-driven investment strategies.

The next halving is estimated to take place on April 19th, 2024. Bitcoin miners who successfully validated transactions are currently awarded 6.25 new Bitcoins for each mined block. The halving will reduce the block reward to 3.125 BTC.

However, accurately predicting Bitcoin's price is a pretty difficult task in a market that is consistently subject to change. What drove markets in the past might not apply now under a new set of market conditions. These can include regulatory developments, macro changes, market liquidity and traded volumes, sector and investment trends, protocol upgrades, market accessibility, and so on.

Against a bearish macro backdrop driven by consecutive US Fed interest rate hikes, 2022 was a turbulent period for crypto. This was followed by the Terra-Luna crash, a liquidity crisis in the spring, and ended with the high-profile collapse of Sam Bankman-Fried's FTX exchange and trading arm Alameda Research, along with his subsequent arrest. This left many investors, especially Bitcoin miners, in a tight spot as Bitcoin plunged to \$16,195 in November 2022.

Post-FTX, Bitcoin began trending upwards from its cycle low. This uptrend was driven by fresh capital from investors and a strong price increase following Grayscale's SEC victory over its Bitcoin spot ETF refiling in January 2023. Demand was further exacerbated by the US banking crisis in March – again, strengthening Bitcoin's safe haven reputation as it began to decouple from traditional assets and outperform all other asset classes.



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<sup>7</sup><https://www.sygnium.com/future-finance/bitcoin-halving/the-bitcoin-halving-impact-a-bullish-catalyst-or-diminished-by-broader-market-forces/#:~:text=Not%20only%20did%20the%20halving,BTC%20for%20the%20first%20time.>