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Revisiting Persistent Bitcoin Criticisms

Fidelity Digital Assets® Research





Background

In November 2020, we highlighted some of the most common Bitcoin criticisms that were sourced from our regular conversations with institutional investors and observation of public commentary on Bitcoin. More than three years later, Bitcoin not only remains the largest digital asset by market capitalization, but continues to grow as a monetary network.

In this piece, we address common Bitcoin criticisms and misconceptions—some legitimate, some debunked. First, we revisit criticisms we've covered in 2020, which have been refuted many times over:

1. Bitcoin is too volatile to be a store of value.
2. Bitcoin has failed as a means of payment.
3. Bitcoin is wasteful and/or bad for the environment.
4. Bitcoin will be replaced by a competitor.
5. Bitcoin is not backed by anything.

The original criticisms above are those we believe can be refuted or are unlikely to be a serious concern. However, we believe that there are a few legitimate concerns that have some, even if small, probability of occurring and, therefore, investors should be aware. These include:

6. A bug in Bitcoin's code could render it worthless.
7. Regulations will slow Bitcoin adoption.
8. People could lose interest.
9. There are "unknown unknowns."

Criticism #1: Bitcoin is too volatile to be a store of value.

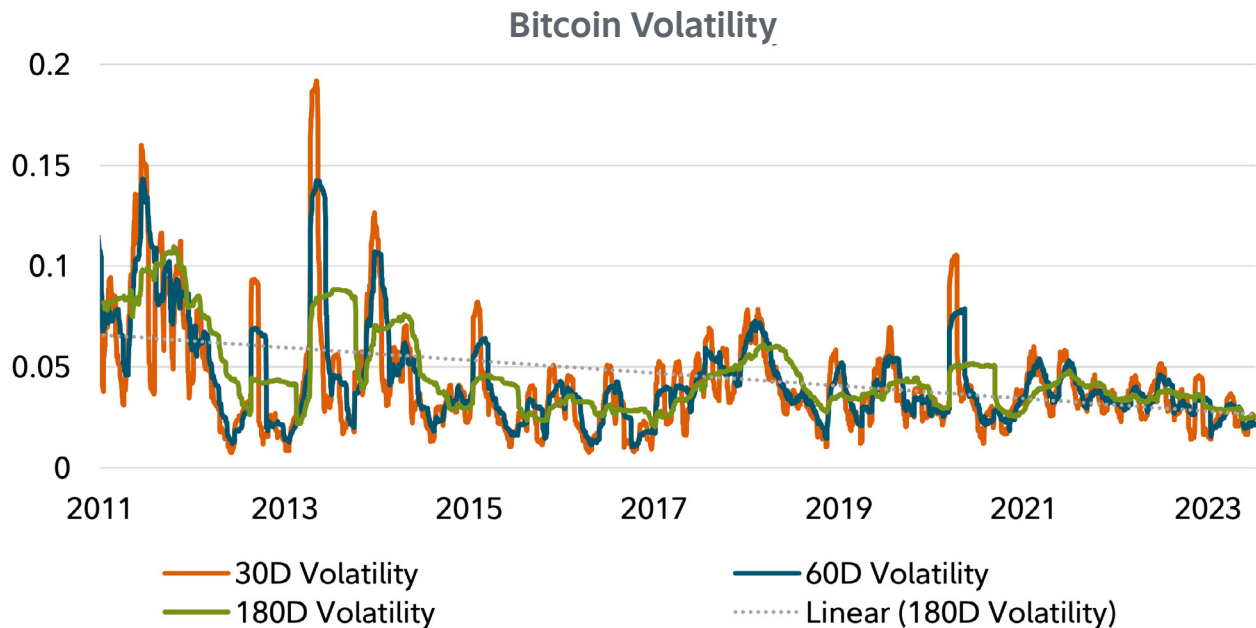
Response: Bitcoin's volatility is a trade-off for perfect supply inelasticity and an intervention-free market. However, with greater adoption of bitcoin and bitcoin-related derivatives and investment products, bitcoin's volatility will continue to decrease, as history has shown.

As discussed in [Bitcoin as an Aspirational Store of Value](#), a new asset's trajectory from fringe awareness to a global store of value is unlikely to be linear. At the time of writing, bitcoin is an emerging store of value undergoing financialization and is in the process of cementing its status as a store of value. Relative to other store of value assets (e.g., gold), bitcoin is narrowly held.

The day-to-day volatility could decline over time with increasing spot and derivative market liquidity and the development of products that allow investors to express interest in bitcoin in different ways, leading to greater ownership and participation. As bitcoin ownership becomes more widespread, bitcoin's price



should stabilize in tandem with net new participants having less of an ability to move the market. However, while bitcoin's volatility may continue to decline relative to where it is today, it is still relatively high compared with other financial assets. Its volatility is contextualized below.



Source: Coin Metrics, 07/04/2023.

Bitcoin's volatility is also emblematic to that of gold, as gold's role was also unclear to early investors. This resulted in annual and even daily volatility similar to today. However, as high-profile hedge fund manager Paul Tudor Jones outlined in his widely read May 2020 Investor Letter:

"In the case of gold, it was a tremendous buying opportunity as gold went on to more than quadruple past the prior highs."¹

Another way to understand bitcoin's volatility is as a consequence of its perfectly inelastic supply. A rise in demand cannot increase bitcoin's supply or increase bitcoin's issuance speed (thanks to the difficulty adjustment, which ensures that blocks are produced roughly every 10 minutes). This supply inelasticity is also what makes bitcoin scarce and valuable. As Bitcoin educator Parker Lewis puts it, "Bitcoin is valuable because it has a fixed supply and it is also volatile for the same reason."² In other words, one of the reasons bitcoin is valuable is its scarcity, but that scarcity comes from its fixed supply, which in turn makes it more volatile, as explained above. Therefore, one cannot remove bitcoin's volatility without also removing one of Bitcoin's core fundamentals that makes it valuable to begin with.

¹ <https://www.docdroid.net/2nTB6aY/may-2020-bvi-letter-macro-outlook-pdf>

² <https://unchained.com/blog/bitcoin-is-not-too-volatile/>



Bitcoin's volatility could also be explained by the fact that Bitcoin has an intervention-resistant market—no central bank or government can manipulate or artificially subdue its volatility. Bitcoin's volatility is a trade-off for a distortion-free market. True price discovery accompanied by volatility might be preferable to artificial stability that may then lead to distorted markets that may break down without intervention.

"We are operating in highly distorted markets whose upward trajectory depends ever more on the persistence of investors' collective faith in the power of an already-stretched monetary policy stance to compensate for a growing number of headwinds."

– Mohamed A. El-Erian, Bloomberg³

Criticism #2: Bitcoin has failed as a means of payment.

Response: Bitcoin makes deliberate trade-offs, such as limited and expensive capacity, to offer core properties, such as decentralization and immutability. Given Bitcoin's high settlement guarantees, the most valuable use of its limited capacity is for settling high value transactions that are not well served by traditional rails.

Many continue to believe that bitcoin's core use case is as a means of payment for everyday low-value transactions. Believing this, critics suggest bitcoin has failed because it (at least its base layer) does not (and cannot) currently offer the same transaction throughput as legacy payment rails, such as Visa, Mastercard, or PayPal. However, Bitcoin vs. Mastercard or Visa is not an apples-to-apples comparison because legacy transaction processors do not provide final settlement until days later, whereas Bitcoin's low five to seven transactions per second (TPS) is slower, but it represents final settlement.

Contrary to what some people think, data from Coin Metrics shows significant transaction volume on the Bitcoin network with more than \$3.1 trillion in transactions settled, which was just under 40% of what Mastercard processed in the last year.⁴ This presents a lower bound for bitcoin's use as a means of payment. However, while function as a medium of exchange may be one of Bitcoin's use cases in specific situations, it is not Bitcoin's core nor only function.

"As a means of payment, it can perform better than incumbent technologies in specific instances (think international payments), but Visa, Apple Pay, Google Pay, PayPal and fiat currency work well and better than cryptocurrency for most day-to-day payments."

– John Pfeffer⁵

3 <https://www.bloomberg.com/opinion/articles/2020-11-01/october-market-selloff-leaves-few-places-to-hide>

4 https://s25.q4cdn.com/479285134/files/doc_financials/2023/q1/1Q23-Mastercard-Supplemental-Operational-Performance-Data.pdf

5 <https://medium.com/john-pfeffer/an-institutional-investors-take-on-cryptoassets-690421158904>



Bitcoin has properties that make it a viable payment tool—it is portable, fungible, and easily divisible. On the flip side, it also has challenges in that it can be volatile sometimes and has limited throughput. These are deliberate trade-offs that Bitcoin accepts. As discussed above, volatility is the trade-off Bitcoin makes for perfect scarcity. Limited throughput is the trade-off Bitcoin makes for decentralization, which is a direct result of cheap and easy validation. By placing a cap on capacity (which limits the amount of data stored on the ledger), Bitcoin makes it possible for people with basic computers to run nodes. Nodes are important because they verify the work performed by miners and enforce checks and balances on these entities in charge of creating blocks and processing transactions so that no individual or single group of stakeholders has outsized power and influence—so that Bitcoin can be as decentralized as possible.

After accepting Bitcoin's limited throughput to achieve decentralization and implement appropriate checks and balances, the next questions worth asking include: What transactions deserve to be written on Bitcoin's base layer? What transactions demand Bitcoin's global, immutable settlement? Arguably, the most valuable use of Bitcoin's limited capacity is not to record transaction data related to day-to-day payments at the point of sale, like buying a cup of coffee, but rather for situations that have the most to gain from Bitcoin's high level of assurances and are underserved by traditional rails.

This includes, though is not limited to, global settlement between international businesses and, eventually, even central banks and governments. One such example is BitPesa, which helped clients (small and medium enterprises and multinationals) trade in, out, and within African currencies via Bitcoin. BitPesa was one of the first companies to leverage Bitcoin for commercial settlement to reduce the cost and friction of doing business in frontier markets.⁶ Another situation where Bitcoin may offer a superior alternative as a payment system is in remittances that have been burdened by slow speeds and high fees. For example, according to the World Bank, the global average cost of sending \$200 was 6.2% in Q4 2022.⁷

To meet the growing demand for affordable Bitcoin payments and micropayments, the Bitcoin network must support exponentially more transactions, which would be impractical to scale on the layer 1 chain. This is why many believe that layer 2 solutions that settle to Bitcoin (e.g., the Lightning Network) can help to scale Bitcoin without sacrificing decentralization. Since payments on the Lightning Network are not recorded on the blockchain, they do not require block confirmations to finalize. This allows payments to be near instant and extremely low cost with an extraordinarily low median base fee rate of \$0.00014 per transaction, assuming 1 sat per transaction, according to data provider Glassnode.⁸ This scaling of Bitcoin can be used for merchant retail sales, peer-to-peer payments, or any other transaction without third-party validation. Compared with Visa, which can theoretically reach up to 24,000 TPS,⁹ but in reality the amount it processes on a day-to-day basis is a fraction of that, Bitcoin's Lightning Network is by far the fastest and cheapest payment technology available.

6 <https://www.cnn.com/video/2018/05/15/blockchain-company-bitpesa-wants-to-transform-payments-in-africa.html>

7 <https://www.worldbank.org/en/news/press-release/2023/06/13/remittances-remain-resilient-likely-to-slow>

8 Glassnode, as of September 25, 2023.

9 <https://usa.visa.com/dam/VCOM/download/corporate/media/visanet-technology/visa-net-booklet.pdf>



Tax treatment is another factor that complicates Bitcoin's use as a means of payment in developed countries, such as the United States. For example, the IRS classifies bitcoin as "property." In the context of payments, this means that bitcoin users must calculate their gain or loss whenever they make a payment or purchase with bitcoin, reducing Bitcoin's attractiveness as a payment option.¹⁰ If a small amount of bitcoin used for purchases is allowed to be exempt from tax calculations (something currently being discussed in Congress), then people may be more willing to use it as a means of payment.

Criticism #3: Bitcoin is wasteful and/or bad for the environment.

Response: Most bitcoin mining is powered by renewable energy or energy that would otherwise be wasted.¹¹ Additionally, the energy the Bitcoin network does consume is arguably a valid and important use of resources.

It is undeniable that bitcoin mining does consume energy. Thus, the question becomes, is it a worthwhile use of energy to secure the Bitcoin network and process transactions? The answer differs based on the person.

Those who appreciate the importance of the first and most provably scarce, decentralized, censorship- and seizure-resistant digital asset that offers irreversible settlement would argue that it is. Bitcoin's most valuable features—perfect scarcity, immutability (irreversibility of transactions), and security (resistance to attack)—are tied directly to real-world resources used in mining. Bitcoin would not be able to fulfill its role as a secure, global value transfer, and storage system without being costly to mine and maintain.

Further, if powering Bitcoin, a global digital monetary network, is considered wasteful, then what does that make the traditional financial system? Consider the energy use and carbon footprint of brick-and-mortar banks and credit unions, corporate office buildings, paper credit card statements, plastic credit cards, paper promotional offers, mining metals for fiat coins, harvesting lumber and other materials to print physical government-issued currency, the human time and energy required to keep the traditional financial system running, and more. Energy is a fundamental requirement for much of modern society, so it is more of a question of where energy comes from and for what purpose it is used.

"In the long-game, there may be no greater, more important use of energy than that which is deployed to secure the integrity of a monetary network and constructively, in this case, the Bitcoin network." – Parker Lewis¹²

While bitcoin mining often gets criticized for consuming energy, it is important to consider what kind of energy. There are different estimates for the portion of bitcoin mining powered by renewable sources. For example, the 3rd Global Cryptoasset Benchmarking Study by the Cambridge Center for Alternative Finance

¹⁰ <https://www.irs.gov/individuals/international-taxpayers/frequently-asked-questions-on-virtual-currency-transactions>

¹¹ [https://www.globalxetfs.com/bitcoin-mining-is-set-to-turn-greener/#:~:text=The%20Bitcoin%20Mining%20Council%20\(BMC,36.8%25%20estimated%20in%20Q1%202021.](https://www.globalxetfs.com/bitcoin-mining-is-set-to-turn-greener/#:~:text=The%20Bitcoin%20Mining%20Council%20(BMC,36.8%25%20estimated%20in%20Q1%202021.)

¹² <https://unchained-capital.com/blog/bitcoin-does-not-waste-energy/>



(CCAF) estimates that as much as 76% of bitcoin miners use renewables, especially hydroelectric power, as a part of their energy mix. The aggregate share of renewables as a portion of total energy consumption by bitcoin miners is 39%, according to CCAF.¹³ CoinShares estimates that the renewables portion of the energy mix powering bitcoin mining accounts for 58.9% as of Q4 2022.¹⁴ Both estimates suggest a significant number of operations are powered by renewables (e.g., hydropower, wind, solar). Recent announcements also suggest that the portion of mining tied to renewables will continue to grow. For example, En+ Group [formed](#) a joint venture to use renewable energy assets that have a low carbon footprint for mining bitcoin. CCAF also estimates that, even if all bitcoin mining was exclusively powered by coal, total carbon dioxide emissions from bitcoin mining would not exceed 58 million tons, or 0.17% of total global carbon dioxide emissions.¹⁵ To put this into context, Bitcoin only produces about 3% of the greenhouse emissions as global air conditioning use.¹⁶

More recently, oil and gas mining operations have been set up to power bitcoin mining using stranded gas, which harnesses energy that may not be consumed for other purposes and, thereby, significantly reduces carbon and methane emissions. Companies that use stranded gas byproduct to mine bitcoin can also generate 15x more revenue than if they could sell the gas at market prices.¹⁷ Setting up bitcoin mining operations may also help these companies to comply with regulations that limit the amount of stranded gas that can be flared or vented and avoid regulatory fines or shutting down operations to prevent natural gas buildup.¹⁸

Stranded gas is natural gas that has limited utility and is likely to be wasted. An oil or gas well without the pipeline infrastructure needed to transport the gas to somewhere it can be used is considered stranded. Stranded gas is flared (deliberately burned into the air to avoid the risk of explosions) or vented (allowed to escape into the air) if it cannot be used, there is no pipeline capacity to transport it, or market prices are too low for it to be economical to transport. Globally, humans flare close to 5,000 billion cubic feet (140 billion cubic meters) of gas per year.¹⁹ Equinor, a publicly traded petroleum multinational, also revealed plans to use stranded natural gas that would otherwise be flared and create carbon emissions to power bitcoin mining.²⁰ In January 2021, Exxon launched its bitcoin mining pilot program, which uses 18 million cubic feet of gas per month to mine bitcoin that would have otherwise been burned off or flared because of a lack of pipelines.²¹ In 2022, Exxon began exploring expanding the program's operations to four new countries due to the program's early success.

13 <https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/3rd-global-cryptoasset-benchmarking-study/>

14 <https://bitcoinminingcouncil.com/bitcoin-mining-council-survey-confirms-year-on-year-improvements-in-sustainable-power-mix-and-technological-efficiency-in-q4-2022/>

15 <https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/3rd-global-cryptoasset-benchmarking-study/>

16 <https://ccaf.io/cbnsi/cbeci/ghg/comparisons>

17 <https://news.bitcoin.com/bitcoin-helps-oil-companies-reduce-carbon-footprint/>

18 <https://www.wsj.com/articles/bitcoin-in-the-wilderness-11553860802>

19 <https://www.iea.org/energy-system/fossil-fuels/gas-flaring#tracking>

20 <https://www.coindesk.com/energy-giant-equinor-to-cut-gas-flaring-with-bitcoin-mining-tie-up-report>

21 <https://www.bloomberg.com/news/articles/2022-03-24/exxon-considers-taking-gas-to-bitcoin-pilot-to-four-countries>

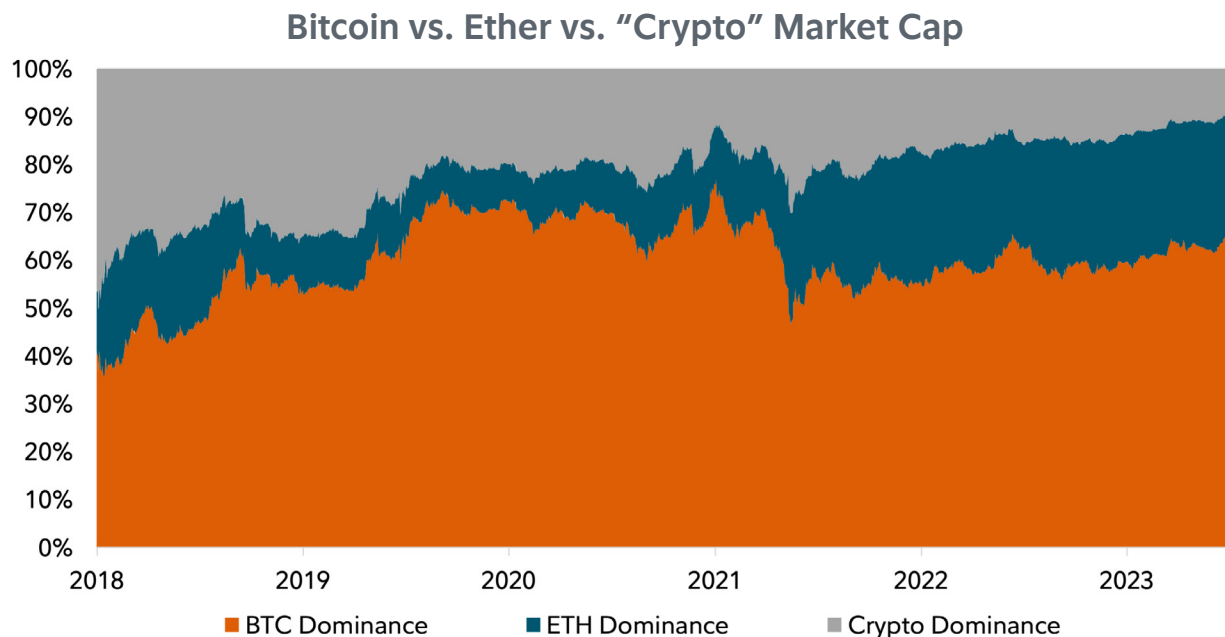


“My favorite way to think about it [Bitcoin’s use case for harnessing stranded energy] is as follows. Imagine a topographic map of the world, but with local electricity costs as the variable determining the peaks and troughs. Adding Bitcoin to the mix is like pouring a glass of water over the 3D map—it settles in the troughs, smoothing them out.” – Nic Carter, Castle Island Ventures²²

Criticism #4: Bitcoin will be replaced by a competitor.

Response: Bitcoin makes trade-offs for core properties that the market deems valuable. While Bitcoin’s open-source software may be copied, its community and network effects cannot.

Many digital assets have emerged that claim to improve upon Bitcoin. However, none have been able to achieve Bitcoin’s network effects to date. Bitcoin has qualities that make it valuable for which it makes explicit trade-offs to offer those qualities as mentioned earlier. While competitors have attempted to improve upon Bitcoin’s limitations (e.g., limited transaction throughput at the base layer, volatility), it has come at the cost of the core properties that make Bitcoin valuable (e.g., perfect scarcity, decentralization, immutability), which explains why Bitcoin continues to dominate in terms of market cap, investors and users, miners and validators, as well as retail and institutional infrastructure, products, and service providers. As shown in the chart below, Bitcoin’s market cap is by far the largest of any digital asset and makes up roughly 50% of the digital asset market.



Source: Coin Metrics, 07/04/2023. Coin Metrics Pro (November 2020). Note: For the sake of this analysis, “Crypto” includes 76 altcoins available on Coin Metrics. It does not include stablecoins.



While Bitcoin's software is open source and may be forked and "improved" upon, its community of stakeholders (users, miners, validators, developers, service providers) and network effects cannot be so easily replicated.

Criticism #5: Bitcoin is not backed by anything.

Response: Bitcoin is not backed by cash flows, industrial utility, or decree. Bitcoin is backed by code brought to life by its stakeholders' social contract.

In "What Is an Asset Class, Anyway?" (*Journal of Portfolio Management*, 1997), Robert Greer defines three asset "superclasses"—capital assets, consumable/transformable (C/T) assets, and store of value (SOV) assets.²³

Greer places gold in the SOV superclass, which includes assets that "cannot be consumed nor can [they] generate income. Nevertheless, [they] have value." However, gold also has characteristics of the C/T superclass given its use in jewelry and technology (e.g., electronics, dentistry),²⁴ which drives the idea that gold is backed by its utility in jewelry and industrial applications. However, gold jewelry is arguably an alternate vehicle to store wealth and is used as a "private monetary reserve,"²⁵ and only a small portion is used in industrial applications (only 7% of 2019 gold demand was tied to applications, such as electronics and dentistry).

Robert Greer also classifies fiat currencies as SOV assets. Fiat exists by decree. The argument for fiat currencies is that they are backed by the full faith and credit of their respective government. However, in many situations, faith in the government and central bank's ability to appropriately manage fiat currencies has been misplaced (see [Venezuela and Lebanon](#)). Multiple central banks and governments have exhausted monetary and fiscal policies as a lever, leading to significant losses in their currency's purchasing power over time.

Based on Greer's definitions, bitcoin best fits in the SOV superclass. Bitcoin is not backed by cash flows, nor is it backed by industrial utility or decree. Distinctly, bitcoin is backed by code that is brought to life by the social contract that exists among its stakeholders:

- Users who choose to transact on the network.
- Miners who choose to incur costs to process transactions and secure the network.
- Nodes that choose to run Bitcoin code and validate transactions.
- Developers who choose to maintain Bitcoin code.
- Holders who choose to store some portion of their wealth in bitcoin.

Bitcoin's stakeholders make these explicit choices, bringing bitcoin's unique attributes to life—its perfect scarcity, transaction irreversibility, and seizure- and censorship-resistance. Bitcoin's network effect,

23 R.J. Greer, (1997). "What Is an Asset Class, Anyway?" *Journal of Portfolio Management*, 23(2) (1997), 86–91.

24 <https://research.ark-invest.com/thank-you-bitcoin-asset-class>

25 <https://www.bullionvault.com/gold-guide/why-gold>



or the addition of every new stakeholder, makes bitcoin more reliable and further hardens its properties, attracting more stakeholders to the asset, and so on. Bitcoin code presents the rules, but the execution of and agreement on the rules by stakeholders gives rise to the secure, open, and global value storage and transfer system that exists today.

Criticism #6: A bug in Bitcoin's code could render it worthless.

Response: The Bitcoin network and its bitcoin token are made up of connected computers all running the same core Bitcoin software. So, it is true that at its most base technical layers, Bitcoin is just software running on computer hardware, and as we know, software can have “bugs” or errors, making it behave in unanticipated or unintended ways.

It is also true that the Bitcoin network experienced two bugs earlier in its history. The first was in August 2010 when someone was able to exploit a bug and create 184 billion bitcoin. Not only were these bitcoin not minted or created through the regular mining process, but of course, it far surpassed the 21 million hard supply cap built into Bitcoin's design and, therefore, was an obvious bug. This was still early enough in Bitcoin's history that Bitcoin's creator, Satoshi, was still actively working on the project. The bug was noticed by others within hours and a code update was created and sent out by Satoshi in the ensuing hours. Soon, enough validating nodes upgraded and continued to build on the “good” version of the blockchain (where the 184 billion bitcoin did not exist) and it overtook the “bugged” version, highlighting the role of community and social consensus in the process.

The second bug happened in March 2013, which effectively took the network offline for approximately six hours. In this instance, a version upgrade to the Bitcoin software (something that is done quite regularly to make small improvements or efficiency gains) unintentionally caused the network to split or “fork” with two versions running simultaneously. While users' bitcoin tokens were safe and unaffected, it did cause major exchanges and retailers to pause or halt transactions. The issue was resolved once again through the social consensus process of developers and miners communicating with each other and voluntarily reverting back to the previous version to sync everything back up again. The event did cause the price of the bitcoin token to fall by over 20% to as low as \$37 on some exchanges.²⁶

Since the 2013 bug, there have been no other network “downtime” events, meaning the Bitcoin network has had 100% uptime for over a decade and, including these events, has had 99.99% uptime since its inception in 2009. While it cannot be ruled out that another bug or unintended consequence of an upgrade may happen, we do think the probability of such an event is much lower as the network has become more resilient, and more developers continue to work on it over time. We think the probability is also lessened as the Bitcoin code is completely open source, so anyone from large companies to independent software engineers can view and test it. We also note that if another bug is discovered, it is likely that those with

26 <https://arstechnica.com/information-technology/2013/03/major-glitch-in-bitcoin-network-sparks-sell-off-price-temporarily-falls-23/>



vested interest and large holdings of bitcoin and equipment (miners, etc.) will be incentivized to work together to quickly fix it. Nevertheless, we do think this is a criticism that is worthy of consideration and investors should assign a non-zero chance to the possibility of a severe enough bug in the core Bitcoin network that could cause its value to decline, possibly precipitously.

Criticism #7: Regulations will slow Bitcoin adoption.

Response: Increasing Bitcoin regulation could actually be a positive indicator of adoption and its value proposition. In other words, if Bitcoin did not have any value and was destined to fade into obscurity, then there would be no need to regulate it. That said, we do think the current degree of regulatory uncertainty could be hindering Bitcoin adoption and development.

The recent closures of prominent banks that serviced crypto exchanges, such as Signature Bank and Silvergate Capital, have presented challenges for digital asset market participants to seamlessly interact with parts of the regulated financial system, like banks.

While we believe Bitcoin's technology is such that it cannot be stopped (much like the Internet and other decentralized technologies), poorly designed regulation, or lack thereof, can greatly hamper adoption and development and does warrant consideration for investors, in our opinion. It could also play into another legitimate criticism, detailed next, which is the threat of investor apathy. Recently, digital asset regulation discussion has increased with policymakers, and we are encouraged to see that digital asset regulation is of increased focus and importance for government representatives. That said, it is evident that unclear or lacking regulation that is specific to the uniqueness of digital assets and blockchain could hinder adoption and growth of Bitcoin.

Criticism #8: People could lose interest.

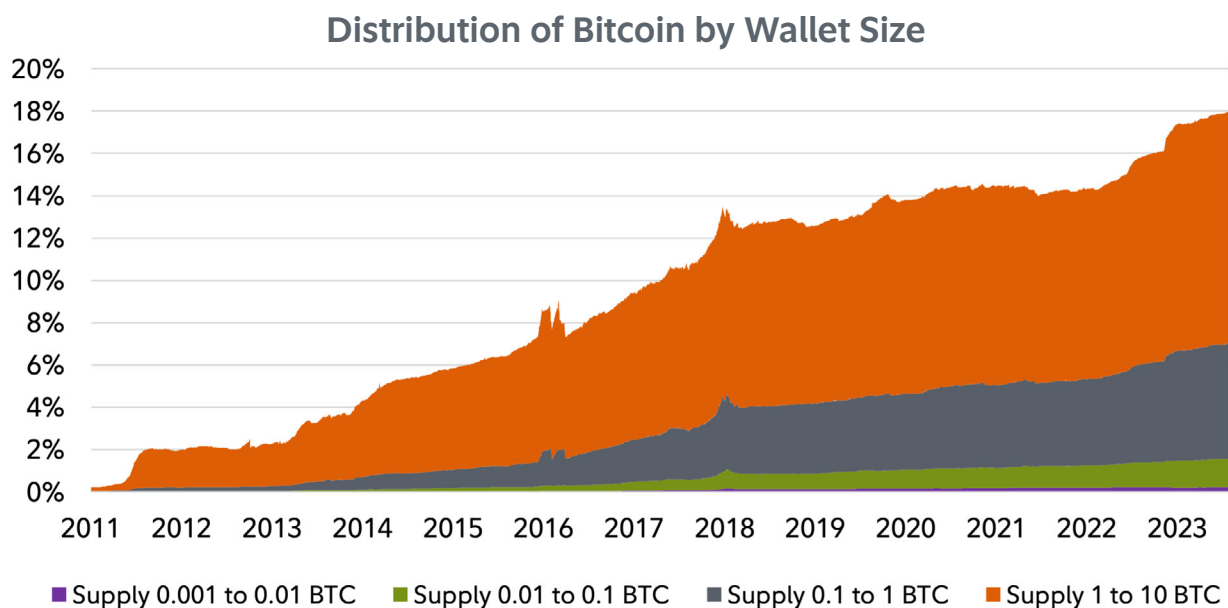
Response: While we have outlined Bitcoin's core value propositions and characteristics that are unmatched by any other digital asset (credible scarcity, immutable, decentralized, censorship-resistant, etc.), this does not mean other users or investors will value these traits as much. Bitcoin's success and increased adoption (and consequently an increase in its price and market capitalization) is not guaranteed and, instead, is a direct result of more and more people valuing these things over alternative or competing investment vehicles and digital assets.

For example, some people are willing to compromise on characteristics of decentralization and censorship-resistance for other digital assets that may offer more convenience or other rewards. As one hypothetical example, the rollout of central bank digital currencies (CBDCs) could entice some users to adopt them over Bitcoin for their built-in network effects (government-incentivized merchant acceptance, for example), lower volatility, or if they are tied to different services or benefits. Other investors may direct their funds to competing digital assets that offer greater speed or programmability if they do not value Bitcoin's decentralization, immutability, or stability as much.



Ultimately, we believe value is subjective, and if the majority of investors and users have different subjective value scales than those that currently value Bitcoin, then Bitcoin's adoption may be limited.

However, on-chain data shows little evidence of interest in bitcoin waning. As prices have greatly risen since Bitcoin's inception, the number of wallets continuing to accumulate and hold a balance has also increased. Where holding a few dollars' worth of bitcoin may have meant you had more than 10 bitcoin in your wallet early on in Bitcoin's history, today, we can see accumulation happening with smaller amounts of bitcoin. In 2014, roughly 96% of addresses held more than 10 bitcoin. Today, that number has fallen to around 82% of addresses, down 14% in nine years. The number of smaller addresses, addresses that hold fewer than 10 bitcoin, have risen 319%, starting at roughly 4% in the beginning of 2014, to 18% as of writing. In the chart below, we can see the distribution and accumulation of small wallets (wallets that hold fewer than 10 bitcoin).



Source: Coin Metrics, 07/27/2023.

Criticism #9: There are “unknown unknowns.”

Response: We would actually fully agree with this criticism, but note that it is not a criticism that is unique to Bitcoin. In this article, we have sought to debunk some of the common criticisms that we do not view as relevant, while also including risks and criticisms we do think investors should consider. These are the “known unknowns,” such as a bug in Bitcoin's code, or Bitcoin's anonymous creator(s) Satoshi suddenly reappearing and selling all their bitcoin, where we know this may be a risk, but do not know the exact probability or time frame.

However, there are “unknown unknowns,” or possible risks that we do not even know of or have not even imagined yet. Investors of any asset should be aware of these and humbly accept that not all risks can be known, let alone quantified and, therefore, should position their investment and portfolio accordingly.



Conclusion

While this piece does not cover the complete list of criticisms against Bitcoin, the responses outlined here may be adapted to address other common misconceptions.

Bitcoin is a unique digital asset for an increasingly digital world that requires digging deeper than the surface level to understand its core properties and trade-offs. It pushes onlookers to question preconceived notions of what is right and widely accepted to begin to understand its full value proposition.

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