AA View

Is Bitcoin the new digital gold?

Summary

- Bitcoin's stratospheric rise in recent years has put it in the front of many investors' minds.
- Many see a parallel with gold, believing that Bitcoin is poised to become a digital 'store of value'.
- Returns have been very strong but are less impressive once its extraordinarily high volatility is considered.
- Extreme volatility is the key barrier to wider institutional adoption. This undermines the alternative store of value argument and makes the market appear far too speculative and immature.
- The potential for government and central bank intervention to limit Bitcoin's circulation and its poor ESG footprint act as further barriers.
- Even though the underlying blockchain technology has real life uses, it is still difficult to make a persuasive case for institutional investors to engage in today's Bitcoin market.
- Bitcoin and the wider cryptocurrency market could evolve to become more investor-friendly over time, so it does bear watching.

The emergence of cryptocurrencies

Bitcoin became the world's first cryptocurrency in early 2009, and since its introduction, over 4,000 new cryptocurrencies have been created. The market capitalisation of these digital currencies is now nearly $2tn, of which approximately 55% is attributable to Bitcoin. For this reason, the focus and discussion of this paper will be on Bitcoin as we believe it is the most suitable cryptocurrency for institutions to investigate.[1]

Apart from being completely virtual, Bitcoin and its digital counterparts are different from other forms of currencies because they use blockchain technology to ensure that all transactions are secure and verifiable. In simple terms, the technology allows users of an electronic ledger to account for all transactions without financial intermediaries. It enables Bitcoin to be decentralised, meaning that no central bank or government controls apply.

[1] Aon has previously discussed this topic in 'A 2020 Guide to Cryptocurrencies and Blockchain', September 2020

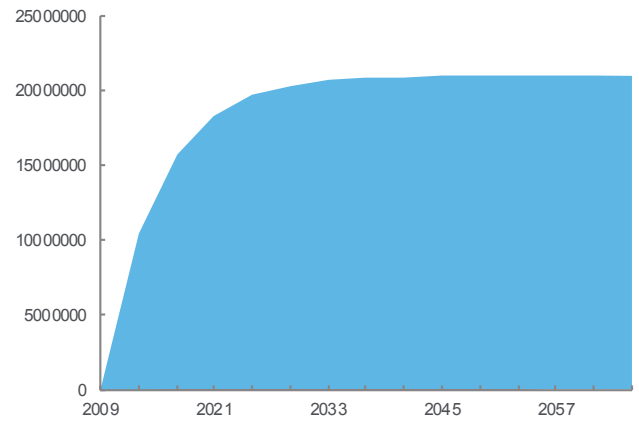
The digital mining process

The amount of Bitcoin in existence is fixed at 21 million coins, of which nearly 18.7 million have already been 'mined'. This finite supply of coins is controlled by 'miners' responsible for verifying transactions and searching for unique cryptographic keys that unlock new Bitcoin. This process is known as 'proof of work'. Miners will receive units of Bitcoin in return for their efforts which acts as an incentive for mining and covers the cost of mining.

Initially, the computing power required to mine one Bitcoin was low. However, as more coins are mined, the marginal cost of mining increases due to the increased computing power needed to find new unique keys. This is a crucial feature of Bitcoin and ensures that a large influx of supply to the network is impossible, theoretically making the cryptocurrency a store of value.

However, as the price of Bitcoin increases, the number of miners attracted to the network also rises. These demand pressures ensure that Bitcoin's supply remains on target to be entirely mined by 2140, with 99% of the available supply being mined by 2040.

Cumulative number of Bitcoin mined over time

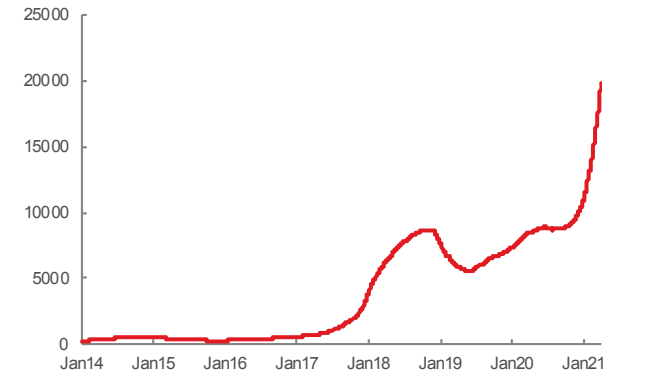


Source: Aon

Recent drivers of Bitcoin's spectacular return

Bitcoin and its investors have been on a wild ride, and the cryptocurrency price has climbed from $1,000 in early 2017 to over $57,500 in April 2021. Bitcoin's first massive bull run began in 2017 mainly because of strong retail investor enthusiasm, which took the price to $20,000. However, by the end of 2018, the price had fallen below $4,000. The price of the coin remained volatile through 2019 and 2020 until coronavirus fears led to a 40% fall over the 2020 market crash. Since then a mixture of strong retail and emerging institutional demand against the backdrop of central bank monetary intervention has sparked a vertical rally.

Bitcoin price rollercoaster
(One year rolling average price, US dollars)



Source: Aon, Coinbase

The rolling average price chart above demonstrates the differences in the size and vigour of Bitcoin's rallies. The most recent rally has been much sharper, partly encouraged by the acceptance of Bitcoin amongst some payment providers. In 2020, PayPal announced that it would begin to accept Bitcoin and other cryptocurrencies on its payment platform. Visa and Mastercard have also signalled their interest in supporting cryptocurrencies on their payment platforms. Tesla's recent announcement that the company would accept Bitcoin as a means of payment and its purchase of $1.5 bn worth of Bitcoin demonstrates the increasing acceptance of the cryptocurrency. However, Tesla is currently an outlier, and some have pointed to the actions of CEO Elon Musk and others as contributors to the wild fluctuations observed in cryptocurrency markets.

Originally most owners of Bitcoin had large amounts of the cryptocurrency. As retail and institutional demand has increased, the number of digital wallets has also increased. As a result, the number of coins per wallet has dropped. Currently, each wallet holds on average 0.3 Bitcoin. Equally, it is true that the largest 1,000 wallets own 13% of all Bitcoin and there have been concerns that some larger market participants can move prices within the cryptocurrency markets.

Interestingly, the banking and financial industries have signalled some acceptance for cryptocurrency. Several CTA hedge funds have emerged, attracting significant inflows, and Goldman Sachs has also signalled that it will reopen their cryptocurrency trading desk.

Digital Gold?

Some have suggested that the finite supply of Bitcoin means that the digital asset is comparable to gold. Furthermore, arguments have been made that Bitcoin's lower carry costs, potential security benefits and ease of transferability are crucial advantages over gold. The correlation between the returns of gold and Bitcoin have varied over time. Initially, there was little correlation between the two. However, since early 2019 there does seem to be evidence that Bitcoin is positively correlated with gold, though very recently, this correlation seems to have reversed. This has fuelled the

narrative that Bitcoin is a store of value like gold and may also potentially replace the precious metal in the future. It is, in any case, hard to put much store on these correlations as causation due to the limited data set and the impact of speculation in the crypto market.

Yet analysts at JP Morgan have suggested that there is evidence to support the theory that Bitcoin can equalise to the value of gold, meaning an expectation that the size of Bitcoin's market capitalisation would eventually reach gold's equivalent. JP Morgan argue that significant inflows to Bitcoin trusts have occurred whereas gold ETFs have experienced some recent outflows which are pointing this way. On the equalisation theory, Bitcoin could have a long-term price target of $146,000.

Another cited attribute of Bitcoin's digital store of value property is its negative correlation with the US dollar. The US dollar is the world's reserve currency and a negative correlation is valuable should the world lose confidence in the dollar. The response of most central banks since the global financial crisis and the ramping up of quantitative easing in response to Covid-19 has raised fears of spiralling inflation and led to some concerns about dollar debasement. This has also led at least some investors to fear that rising inflation could lead to a major reduction in the real value of the dollar and therefore lead to an appreciation of Bitcoin in relative terms, in a similar way to gold. The argument is that the dollar is simply a currency without intrinsic value, i.e. not linked to gold or some other finite resource and will be a poor value store.

Bitcoin's risk vs return (in US dollars, over the last 5 years)

	Annualised Volatility % p.a.	Annualised Return % p.a.
Bitcoin	77.7%	168.5%
MSCI AC World Index	15.4%	14.0%
Gold	14.5%	7.0%

Source: Aon, FactSet, Coinbase

All said and done, a necessary condition for Bitcoin to reach the JP Morgan long-term target mentioned above is the strength of investors' beliefs that Bitcoin is an actual store of value. One major factor impeding this is its massive volatility. The bouts of rapid price moves do not square with its 'store of value' narrative. Taking a 5-year lookback from early 2016 (see table above) Bitcoin has returned an eye-watering 168% p.a. in US dollar terms which is of course impressive, but it has come with an average annualised volatility of close to 80% p.a. Such volatility is a massive outlier against asset classes held by institutional investors. By comparison, gold's volatility which many complain about as being high, as the table above shows, merely resembles that of equities[2].

Hurdles to Bitcoin's wider institutional adoption

Central Bank and government intervention

Apart from its high price volatility, the most significant risk facing the cryptocurrency market is likely to be central bank or government intervention, in our view. Future widescale adoption of cryptocurrencies would likely reduce central banks' ability to deploy quantitative easing and control money supply in times of economic stress. Furthermore, the commercial banking sector will likely object to competition from the largely unregulated cryptocurrency market.

Central bank-issued digital currencies also pose significant risks to the future of cryptocurrencies. Recently, the People's Bank of China began trialling a digital version of the renminbi. A vital feature of the currency is that it is centralised, unlike most cryptocurrencies, granting its government greater control of money flows. The meteoric rise of assets such as Bitcoin has pushed the rollout of digital currencies near to the top of many central bank agendas. In 2020, a survey of 60 central banks showed that more than 60% of the banks, up from 42% in 2019, were conducting digital currencies experiments. The risk of central bank digital currencies crowding out the cryptocurrency market is a very material risk for any institutional investment.

There have already been suggestions from many central bankers, including Janet Yellen, the US treasury secretary, that cryptocurrencies may need to be regulated. As of the date of writing, the purchase and sale of cryptocurrencies are permitted in almost every country in the world, but it is not hard to imagine a world where governments take further steps to clamp down on the market.

There will also likely be government pressure to ban digital currencies based on their historical links to organised crime. Even though the underlying blockchain has secure properties, theft from cryptocurrency wallets and exchanges have been common. As the price of cryptocurrencies rise, there is a possibility that the frequency of theft will increase.

However, the volume of stolen Bitcoin has been in decline in 2020 and Bitcoin theft fell 92% from the previous year. This has been attributed to the decentralised nature of Bitcoin. All network participants can track transactions meaning that using Bitcoin as a medium of exchange is less attractive for illicit activities. Another key consideration for any investor will be deciding where to hold the coins, some platforms may be safer and tend to have high transaction fees. These costs will eat into returns over time if trading volume is high.

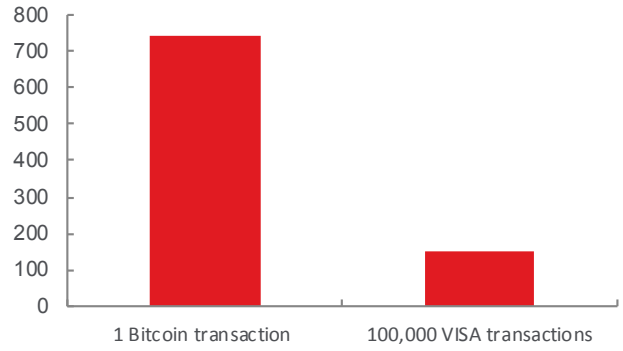
ESG and geopolitical risks

Another critical risk facing the institutional adoption of cryptocurrencies is the significant amounts of energy used in mining and verifying transactions. Current energy expenditure on Bitcoin alone is greater than that of some medium-sized economies (e.g. Argentina) and makes up approximately 0.5% of

[2] See also, AA View: *As good as gold?* September 2020

worldwide electricity use. The energy costs associated with Bitcoin are set to increase over time as the work required to mine new Bitcoin rises. Also, the rising value of Bitcoin is likely to attract new miners, which will likely push costs and electricity usage higher.

Bitcoin has high average relative energy consumption per transaction (kw hours in 2020)



Source: Aon, Digiconomist

The cost of mining one Bitcoin relative to the cost of other payment systems such as the VISA network (see chart above) poses a question on the need for cryptocurrencies. The significantly higher costs associated with Bitcoin detract from the currency angle many argue for Bitcoin and illustrate the potential inefficiencies with cryptocurrencies.

According to the University of Cambridge's Global Crypto-Asset Benchmarking study, 65% of mining capability is in China, where coal is used for approximately 75% of electricity generation. Many cryptocurrency enthusiasts will point to the growing use of renewables in the mining process. However, the adoption of the Paris Accords and sustainable investment must be key considerations for institutions. With so much concentration of mining resources in China, there are concerns over the nation's ability to control the Bitcoin market. Furthermore, growing tensions between the US and China will only add to future concerns over Bitcoin's price stability.

Immaturity in the digital asset market

The cryptocurrency market boom has led to the release of many new cryptocurrencies. The introduction of these new cryptocurrencies has led to a rise in 'pump and dump' scams. These scams focus on artificially increasing the price of specific cryptocurrency by attracting demand, usually from retail investors and then selling at the newly inflated price. In 2020, over $350m of suspicious trading activity took place on cryptocurrency exchanges and points to the digital asset market's continued immaturity.

Finally, Quantum computing poses a theoretical risk to Bitcoin, as computing speed increases due to more powerful computers, it may be possible to override the proof of work protection built into blockchain. Depending on the speed of quantum computing, it is theoretically possible that Bitcoin could lose all its value. However, quantum computing remains in its infancy, so it is difficult to place a probability on this risk.

Should institutional investors enter the cryptocurrency market?

How then should institutional investors approach Bitcoin? In earlier years heavy retail investor speculation was enough to discourage most institutions from treating Bitcoin as an institutional asset class. Views may be changing, but, for now, we suspect that Bitcoin and its counterparts will remain on the fringe.

There is a case to support Bitcoin as a digital alternative to gold, but this will only play out if volatility eases substantially. The risks of central bank or other regulatory intervention, its negative ESG footprint, and other attributes of immaturity in the digital asset market are formidable obstacles to widespread adoption.

We do see the underlying blockchain technology as having real life uses which offer value, but the character of the Bitcoin market does not at present lend itself to widespread institutional adoption.

This is not set in stone and some changes may occur as the market gradually matures which may render it more appropriate to consider in portfolios. We will keep watching.

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