

Bitcoin Brief

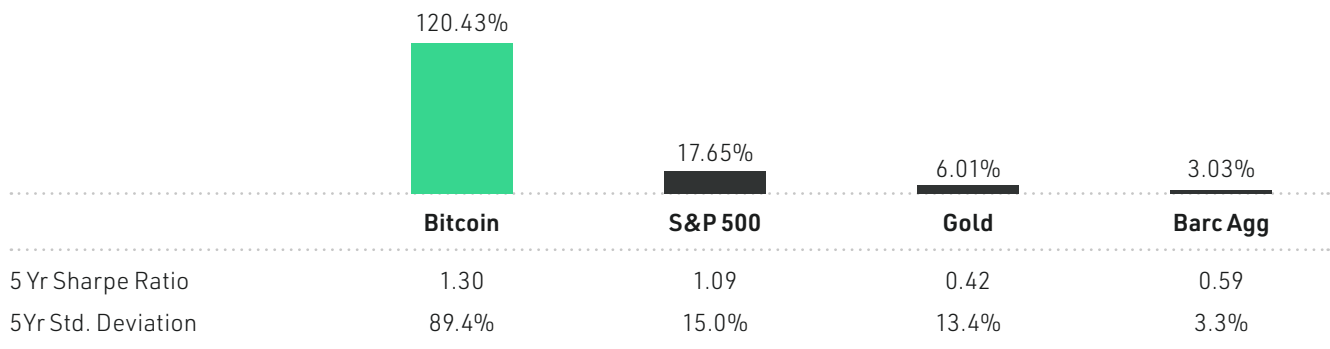
MARKET UPDATE

Following four consecutive quarters of stellar returns, bitcoin's price volatility that started in the spring continued throughout June. Bitcoin ended the month at \$34,765, down nearly 3% for the month but still up over 19% YTD.

It's important to put bitcoin's recent price volatility into context: while June was undoubtedly a volatile month, bitcoin's 12-month realized volatility relative to the S&P 500 has been trending downwards since 2017. Back in 2017, bitcoin's volatility peaked at 13.7x the S&P 500 but has since dropped to 4.7x as of 6/30/21. We expect this trend to continue as the asset matures further.

A longer-term perspective helps when analyzing performance as well. Even after its tough second quarter, bitcoin is still one of the best performing assets of 2021, outperforming U.S. equities, global ex-US equities, and all major fixed income asset classes.¹ In fact, since 2011, bitcoin has had nine drawdowns in excess of 40% but still remains the best performing asset by a wide margin over the last decade. From a risk-adjusted return perspective over the last five years, bitcoin's Sharpe ratio of 1.30 is well ahead of the S&P 500 (1.09), Gold (0.42), and the Bloomberg Barclays U.S. Aggregate Bond Index (0.59). With no change to the fundamental case for bitcoin, we believe the secular growth opportunity for a rapidly expanding, transformative network with far reaching societal implications has never been clearer.

5-YEAR ANNUALIZED RETURNS



KEY POINTS.

- El Salvador adopted bitcoin as legal tender
- China concerns are now behind us
- Bitcoin mining is moving to greener pastures

MARKET STATS.

As of 6/30/21

BTC Price	\$34,765
BTC Market Cap	\$655B
% of BTC Total Supply in Circulation	89%
3M Average Daily Bitcoin Transactions	~250K

NOTEWORTHY HEADLINES.

[NYDIG Expands its Play to Bridge Bitcoin and Banking with New Partnerships](#)

[Morgan Stanley, Blockchain Capital Lead Investment in Securitize](#)

[PBOC Orders Banks to Cut Off Accounts for Crypto OTC Merchants](#)

[Hedge Funds Expect to Hold 7% of Assets in Crypto within Five Years](#)

[El Salvador Becomes First Country to Adopt Bitcoin as Legal Tender](#)

FIRST COUNTRY ADOPTS BITCOIN AS LEGAL TENDER

On June 8th, El Salvador's government passed a law making bitcoin legal tender on the basis that it will benefit its citizens as a tool both to facilitate remittances and to securely store wealth. While El Salvador may be a relatively small country, remittances to the country stand at around \$6 billion, representing nearly 25% of its GDP.ⁱⁱ The bitcoin network can save the El Salvador people over \$285Mⁱⁱⁱ in remittance fees each year. We believe this is a seminal moment for the network, as the announcement provides a template for a long list of other countries who are challenged by the high fees associated with conventional remittance systems, are looking to encourage financial inclusion, and are concerned with inflationary pressures in the United States. Lawmakers from Brazil, Argentina, Paraguay, Panama, and even Mexico have suggested a bigger role for bitcoin in their economies.

REMOVAL OF CHINA OVERHANG

Over the years, China has made numerous pronouncements related to the prohibition of crypto trading and mining. Beginning in May and extending through June, China embarked on its most serious effort to date to end mining in every major province. Mining is a critical part of the Bitcoin network as it provides necessary network security as well as transaction processing. According to data from Cambridge University, 65% of the Bitcoin network's hash rate, or the amount of computing power being contributed to the network through mining, was once located in China. Following China's clamp down on mining, Bitcoin's global hash rate declined 70% from its peak and has settled at a new floor. This may demonstrate that the worst impact from the China mining ban is now behind us. Critically, as miners shut down operations in China and sought friendlier jurisdictions, the network continued to function securely without interruption.

BRINGING MINING TO GREENER PASTURES

Developments in China present a significant opportunity to bring bitcoin mining to greener energy grids, like North America. The location of bitcoin mining is flexible, and with the rulings of authoritarian governments aside, miners are generally located near the cheapest sources of electricity. We believe the cheapest sources of energy will increasingly be the cleanest sources of energy, and market factors tied to bitcoin mining may accelerate the global energy transition to renewables. While estimates around renewables' share in the current bitcoin energy max vary significantly from a low of 25% to 56%,^{iv} we believe the news out of China will accelerate the use of cheap renewables like solar and wind in the mining process.

PERFORMANCE

	1MO	3MO	YTD	1YR	3YR*	5YR*
Bitcoin	-2.91%	-40.68%	19.12%	280.52%	75.92%	120.43%
Gold	-7.17%	3.65%	-6.76%	-0.61%	12.22%	6.01%
S&P 500	2.33%	8.55%	15.25%	40.79%	18.67%	17.65%
Barclays Agg	0.70%	1.83%	-1.60%	-0.33%	5.34%	3.03%

*Returns greater than 1 year are annualized.

	5YR Standard Deviation	5YR Sharpe Ratio	5YR Correlation to BTC
Bitcoin	89.4%	1.30	-
Gold	13.4%	0.42	0.10
S&P 500	15.0%	1.09	0.22
Barclays Agg	3.3%	0.59	0.14

NYDIG, Bloomberg, last available data as of 6/30/21. Bitcoin returns based on month-end 4pm prices. Monthly bitcoin prices prior to October 2018 are based on Coinbase 4pm pricing. In October 2018, NYDIG began generating bitcoin prices in accordance with NYDIG Asset Management's valuation policy for its bitcoin funds. The monthly bitcoin prices used after October 2018 reflect 4pm prices determined in accordance with such valuation policy, which is the same valuation policy that is used for NYDIG's funds. As there are two different pricing sources for bitcoin reflected, the historical performance of bitcoin shown may be different if the bitcoin prices in accordance with NYDIG Asset Management's valuation policy were used for the entire period or if the Coinbase pricing were used for the entire period. Performance data quoted represents past performance of bitcoin, the underlying asset class of the fund. Past performance of bitcoin is not fund performance or indicative of future fund performance results. The performance of bitcoin as an asset class does not reflect any deductions for fees, taxes, transaction costs or any other expenses which will be borne by investors in the fund. The fund's performance will be materially lower than the performance of bitcoin as a result of applicable fees and expenses. Bitcoin has historically exhibited high price volatility relative to more traditional asset classes. The value of an investment in bitcoin or the funds could decline rapidly, including to zero.

END NOTES:

- i Source: NYDIG, portfoliovisualizer.com
- ii Source: World Bank
- iii Source: World Bank. El Salvador received \$5.94B in personal remittances in 2020. The global weighted average remittance fee paid in Q4 2020 was 4.82%. On 6/28/21, senders of bitcoin paid just 0.01% in transaction fees.
- iv For example, the Bitcoin Mining Council (2021) estimates that 56% of proof-of-work mining is powered by renewable energy; Cambridge University (2020) estimates 39% and Oliver Wyman (2021) estimates 25%.

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