Key Questions

November 8, 2021

What's Bitcoin Worth, Anyway?

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The Key Wealth Institute is a team of highly experienced professionals from across wealth management, dedicated to delivering commentary and financial advice. From strategies to manage your wealth to the latest political and industry news, the Key Wealth Institute provides proactive insights to help grow your wealth.

Bitcoin's price hit an all-time high last month, just shy of $67,000 per token. The cryptocurrency is now up more than 100% from its year-to-date low registered in July. What explains this recent spike? Or, maybe more importantly, what explains Bitcoin's price in general? Does it have a fair value?

The challenge with estimating Bitcoin's fair value is that unlike traditional assets such as stocks, bonds, and real estate, Bitcoin does not have a stream of future cash flows that can be discounted to estimate its intrinsic value. It has nothing akin to dividends, interest payments, or rents, and so in the eyes of a fundamental analyst, Bitcoin has no intrinsic value. But that doesn't mean it's worthless.

Consider the question of Bitcoin's fair value through the lens of its historical price range. It's enormous. At the bottom of the range, the 10,000 bitcoins that Laszlo Hanyecz paid for two Papa John's pizzas in 2010 implied a price of less than $0.01 per coin. At the top end of the range, it traded at nearly $67,000 last month, as noted above. Even experienced analysts struggle with assessing Bitcoin's value, given its meteoric price rise and exceptional volatility.

Despite Bitcoin's lack of productive cash flows, market participants have proposed various frameworks to understand Bitcoin's price. We review two of the most prominent models here.

Relative to gold.
The most often cited model compares the market value of Bitcoin to gold, drawing on the parallel that gold, too, is a scarce store of value that lacks cash flow.

The World Gold Council estimates that about 200,000 metric tons of gold have been mined throughout history. And because gold is practically indestructible, it can be assumed that all of it is still held somewhere. At $1,800 per ounce, the current market cap of gold is approximately $11.7 trillion. Bitcoin's estimated market cap of $1.3 trillion is 11% of gold's. In other words, all the world's bitcoins can buy 11% of the world's gold. This is an interesting statistic for sure, but it gets us no closer to an answer of fair value since it's not obvious what that ratio should be.

Stock-to-flow model.
The second most prominent model to estimate the value of Bitcoin is the stock-to-flow model, which was first introduced by a Bitcoin enthusiast who uses the name Plan B.

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The model suggests that a scarcity factor (SF = stock/flow) explains price levels. Gold, for instance, has a scarcity factor of approximately 66 (existing stock of 200,000 metric tons versus annual mining of 3,000 metric tons), meaning that it takes approximately 66 years of current gold mining production to double outstanding supply. The stock-to-flow model suggests that Bitcoin's fair value could be discovered by a statistical regression that compares the total stock of Bitcoin outstanding (known) to the flow of incremental supply of bitcoin, which is also known. We'll spare you the finer details.

Interestingly, the stock-to-flow model appeared to have tremendous early success. When the model was first released in March 2019, Bitcoin was trading at $4,000, and the model boldly predicted that the price would rise to $70,000. The price of Bitcoin did rise to $65,000 by early 2021, and it trades close to this value today.

The S2F model is dynamic, since Bitcoin 'flow' declines every four years when mining rewards halve. The model suggests that these halving events are responsible for higher Bitcoin prices.

Academics are skeptical of the S2F model and tend to dismiss it on the grounds of the efficient market hypothesis. They argue that the future supply trajectory of bitcoin is well known in advance (it's transparent code), and thus it should already be 'priced in'. Prices should not respond to a fully known-in-advance event. In other words, academics dismiss the success of the S2F model as a classic case of mistaking *causation* for *correlation.*

The struggle to estimate the fair value of a speculative asset is age-old. Warren Buffett shuns gold precisely because it yields nothing and suggests that gold is not useful outside of "going long fear." In his 2011 letter to Berkshire Hathaway shareholders, he wrote: "What motivates most gold purchasers is their belief that the ranks of the fearful will grow." In other words, speculation drives gold's price, not fundamentals. Bitcoin is the same.

The reality is that there is no theoretical model that reliably captures Bitcoin's price. No reliable model exists indicating whether its price is low, fair, or expensive.

Bitcoin has value because buyers in the market ascribe value to it. Like gold.

And just like gold, there is no endgame with Bitcoin's price discovery; it will continue to be a volatile reflection of speculation, fear of inflation, fear of missing out, regulatory risk, technological risk, and ultimately, buyer's sentiment.

Investors considering an allocation to Bitcoin in their portfolio should recognize the speculative nature of the asset. That doesn't mean it's worthless, in the same way gold as an investment asset is not worthless; instead it means that there simply is no reliable model of intrinsic value available. So, in short, and quite plainly, the value of Bitcoin is what others are willing to pay for it.

For more information about Bitcoin and cryptocurrency, we would encourage you to read our latest whitepaper titled, "Cryptocurrency Basics: Blockchain, Bitcoin, and Betting on the Future." This research paper is designed to help investors understand how Bitcoin and cryptocurrencies work and their potential role as an asset class.

For more information, please contact your advisor.

About the Author

Justin Tantalo has 15 years of experience in investment management, both in Asset Allocation and Fund Management. As a Senior Vice President with Key Private Bank, Justin applies his expertise in Asset Allocation and helps oversee the equities and alternatives third-party manager research effort.

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Publish Date: November 8, 2021

210714-1142677-1215756011