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# THE BITCOIN HALVING IS UPON US

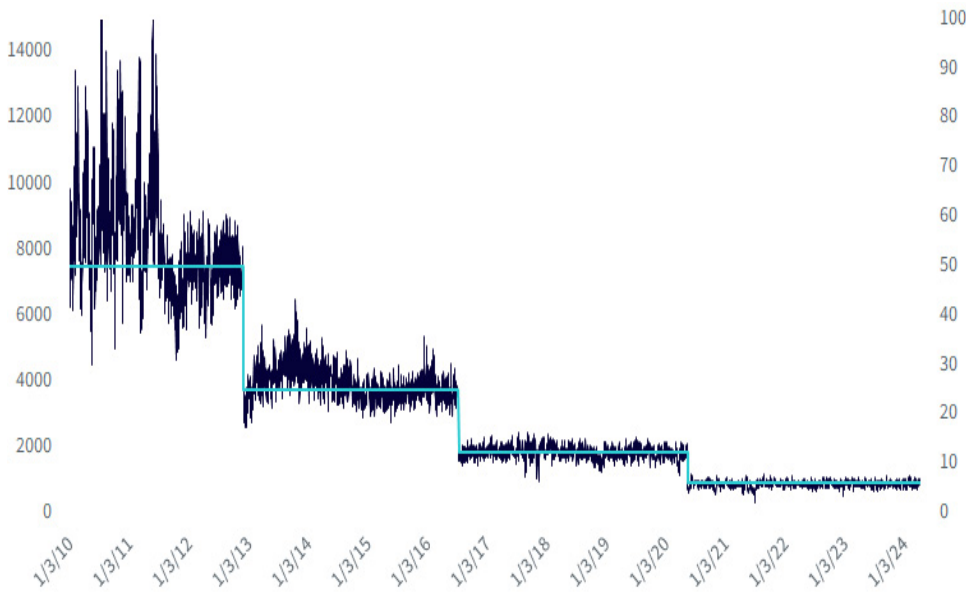
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The [bitcoin “halving”](#) (or “halvening,” as some say) is an event that takes place in the bitcoin network roughly every four years. Newly issued (or mined) bitcoin is cut in half, reducing oncoming supply. At a point near the year 2140, the total supply of 21 million bitcoins will be mined, and no more new supply will become available to the market. Economics 101 would say that, holding demand constant, this tightening of supply would lead to higher prices—which is what has been observed in past events such as this. Will this be the case once again?

## Concepts Underpinning the Halving

Approximately every 10 minutes, a new block is added to the bitcoin [blockchain](#), recording transactions on the bitcoin network from across the globe. Someone, or some computer, needs to add these blocks to the blockchain. This is the responsibility of bitcoin miners. As they compile transactions into blocks, validating their accuracy in the process and adding these blocks to the blockchain, there is an incentive for them to do so. This incentive comes in the form of the “block reward,” or a newly minted bitcoin, which serves as payment for their efforts. Every 210,000 blocks, which equates to roughly every four years, this block reward is cut in half. As a result, miners get paid less bitcoin to do the same activities, and the newly minted bitcoin coming into circulation is reduced. Daily revenues paid to miners and the prevailing block reward can be seen in Figure 1, with the halving events reflected by the downward steps in the block reward.

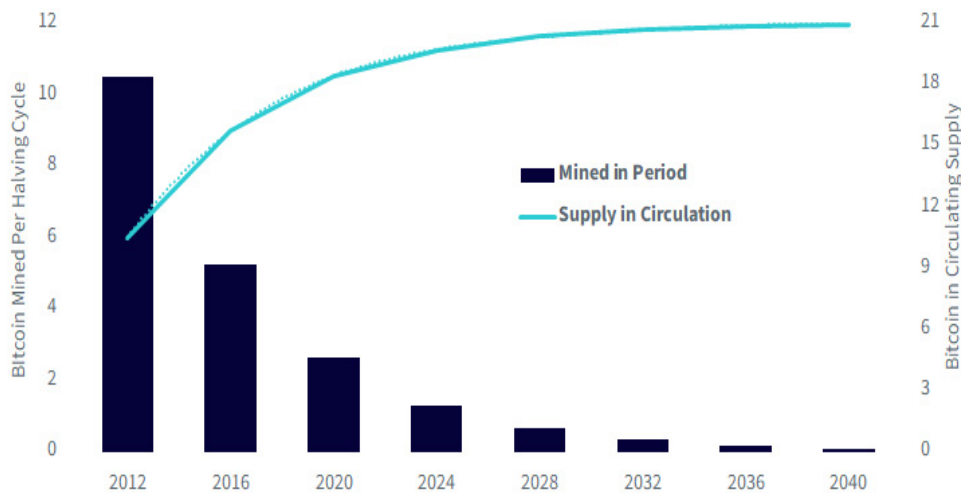
Figure 1: Block Rewards and Bitcoin Miner Revenue (BTC)



Sources: Glassnode, WisdomTree, as of April 2024. **Bitcoin is highly speculative and involves a high degree of risk, including the potential for loss of the entire investment. An investment in bitcoin involves significant risks (including the potential for quick, large losses) and may not be suitable for all investors.**

Subsequently, each halving cycle has a fixed amount of bitcoin issuance as a function of the block reward (210,000 blocks x block reward = newly minted bitcoins paid to miners). Halving events repeat until the block reward, and therefore new issuance, becomes negligible. At that point, no new supply comes online, and the prevailing supply is all that will ever be—21 million bitcoins. This can be verified in the code in two places: in the function defining block rewards and in the function explicitly setting the max. These supply dynamics can be seen in Figure 2. Interestingly, the mining process will be ongoing for roughly 100 calendar years, even though the vast majority of the supply will have already been created by 2040.

**Figure 2: Bitcoin Mined per Halving Cycle and Circulating Supply, Millions**



Sources: Capital.com, ZenLedger, WisdomTree, 2024. **Bitcoin is highly speculative and involves a high degree of risk, including the potential for loss of the entire investment. An investment in bitcoin involves significant risks (including the potential for quick, large losses) and may not be suitable for all investors.**

**Implications for Investors**

The broad implications of the halving are threefold:

- Reduced bitcoin-denominated payment for miners (reduced block reward)
- Reduced supply coming online, with a max supply of 21 million, which is estimated to be achieved in the year 2140
- An alternative, transparent monetary policy providing an opportunity for an alternative investment exposure

Put simply, bitcoin monetary policy is very different from the monetary policies employed by global governments, which can print as much money as they desire at any time.

The first implication is that holding all else constant, including bitcoin price in USD terms, it can lead to pressure on miners as their input costs come in the form of energy to run the computers doing the work of adding these blocks to the blockchain. If the USD price doesn't remain above input costs, poorly capitalized bitcoin mining companies may be forced to consolidate, restructure or shut down. Investors with bitcoin mining equity exposure may want to be mindful of this dynamic as we see the price of bitcoin evolve over the coming weeks.

The second implication is to reiterate the overall reduction in bitcoin supply coming into circulation. With only so many blocks processed per day, the miner is rewarded with less newly minted bitcoin for each block. With the current iteration of the halving, these block rewards have been reduced from 6.25 to 3.125 bitcoins, marking a point in time where 19.7 million bitcoins (or nearly 94% of supply) are in circulation. Since these rewards are halved regularly, the overall newly minted bitcoin reduces until we eventually reach 0 for a block reward and a maximum circulating supply of 21 million bitcoins.

The third serves as a reminder of the transparent and immutable monetary policy implemented through the bitcoin software. There is no question about if and when these reductions in issuance take place, nor is there a group of leaders such as central bank policy makers reacting to the data to determine the best policy actions going forward. The bitcoin network is global, operating 24 hours a day, 365 days a year. Use cases of the network may differ depending on where an individual is based and whether that person's home currency is more stable (think U.S. dollar, Swiss franc, euro, Japanese yen, British pound) or less stable (Turkish lira, Argentinian peso, Nigerian naira).

#### Is It Too Late?

Given recent performance, investors reading this may wonder if it is too late to consider bitcoin in weighing the applicable risks. Many institutions are only just beginning to allocate or evaluate such investments, meaning bitcoin's total market capitalization has reached a point of USD 1.3 trillion<sup>1</sup>. With a significant portion of global capital not yet deployed in this space, it is still early days. We saw this with the [introduction of the spot bitcoin ETFs in the U.S.](#)

Figure 3: Bitcoin Halving Cycle Details

Event	Date	Block	Block Reward	Mined (EOP)	Supply in Circulation (EOP)	% Supply in Circulation (EOP)
Launch	January 2009	0	50.00	10,500,000	10,500,000	50.0%
Halving 1	November 2012	210,000	25.00	5,250,000	15,750,000	75.0%
Halving 2	July 2016	420,000	12.50	2,625,000	18,375,000	87.5%
Halving 3	May 2020	630,000	6.25	1,312,500	19,687,500	93.8%
Halving 4	March 2024	840,000	3.13	656,250	20,343,750	96.9%
Halving 5	Estimated 2028	1,050,000	1.56	328,125	20,671,875	98.4%
Halving 6	Estimated 2032	1,260,000	0.78	164,063	20,835,938	99.2%
Halving 7	Estimated 2036	1,470,000	0.39	82,031	20,917,969	99.6%
Halving 8	Estimated 2040	1,680,000	0.20	41,016	20,958,984	99.8%

Sources: Capital.com, ZenLedger, WisdomTree, 2024. Supply Mined, Supply in Circulation, % Supply in Circulation are as of end of period (halving cycle). **Bitcoin is highly speculative and involves a high degree of risk, including the potential for loss of the entire investment. An investment in bitcoin involves significant risks (including the potential for quick, large losses) and may not be suitable for all investors.**

Furthermore, halving events have historically been a great time to begin allocating. In previous cycles, significant positive price action has followed halvings, with each returning multiple times the initial investment within approximately one year from the onset. We know the future is uncertain, and we can't look at history to predict what will happen next, but it is worth noting that a pattern has emerged in alignment with the basic supply and demand narratives from above.

To give Figure 4 some additional detail and clarification :

- **First Halving:** The date of the Halving event was November 28, 2012. 1M is from the halving date to December 28, 2012, 6M is from the halving date to May 28, 2012 and 1Y is from the halving date to November 28, 2013. The price of 1-bitcoin on the halving date was \$12.30, whereas 1M forward it was \$13.42, 9.1% higher than on the halving date. 6M forward it was \$125.87, which was 923.7% higher than on the halving date. 1Y forward it was \$1,012.81, which was 8,136.9% higher than on the halving date.
- **Second Halving:** The date of the Halving event was July 9, 2016. 1M is from the halving date to August 9, 2016. 6M is from the halving date to January 9, 2017. 1Y is from the halving date to July 9, 2017. The price of 1-bitcoin on the halving date was \$657.32. The price 1M forward was \$585.99, which was 10.9% below that of the halving date. The price 6M forward was \$901.68, which was 37.2% above that of the halving date. The price 1Y forward was \$2,505.72, which was 281.2% above that of the halving date.
- **Third Halving:** The date of the Halving event was May 11, 2020. 1M is from the halving date to June 11, 2020. 6M is from the halving date to November 11, 2020. 1Y is from the halving date to May 11, 2021. The price of 1-bitcoin on the halving date was \$8,599.78. The price 1M forward was \$9,324.48, which was 8.4% above that of the halving date. The price 6M forward was \$15,693.91, which was 82.5% above that of the halving date. The price 1Y forward was \$56,714.09, which was 559.5% above that of the halving date.

Figure 4: Historical Halving Events

Event	Date	1M Return	6M Return	1Y Return
First Halving	11-28-2012	9.1%	923.7%	8136.9%
Second Halving	07-09-2016	-10.9%	37.2%	281.2%
Third Halving	05-11-2020	8.4%	82.5%	559.5%

Source: Glassnode, WisdomTree, 2024. While the chart was created in April 2024, the data is showcasing periods that were all substantially in the past and is not meant to reference anything occurring in 2024 or having to do with the April 2024 halving event.

**Past performance may not be indicative of future results. Bitcoin is highly speculative and involves a high degree of risk, including the potential for loss of the entire investment. An investment in bitcoin involves significant risks (including the potential for quick, large losses) and may not be suitable for all investors.**

It will be interesting to see how things play out in the coming weeks. This halving is the first that has seen such widespread media coverage—notably traditional financial news outlets like Bloomberg and CNBC—as well as increased access through widely available ETF offerings, improving ease of access and institutions coming onboard.

<sup>1</sup> Sources: Capital.com, ZenLedger, wisdomTree, 2024. Supply Mined, Supply in Circulation, % Supply in Circulation are as of end of period (halving cycle).

<sup>2</sup> Source, as is referenced under the chart, is Glassnode, in that we use Glassnotes data to pull in the relevant points for the numbers shown.

### Important Risks Related to this Article

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## DEFINITIONS

**Bitcoin Halving**: The Bitcoin Halving is when Bitcoin's mining reward is split in half. It takes the blockchain network about four years to open 210,000 more blocks, a standard set by the blockchain's creators to continuously reduce the rate at which the cryptocurrency is introduced.

**Blockchain**: a distributed ledger system in which a record of transactions made in cryptocurrencies are maintained across computers linked in a peer-to-peer network