The fourth Bitcoin "halving"

Introduction

At the end of the week, a major event will take place in the cryptocurrency world. It's called the bitcoin halving. Scheduled 15 years ago, this process occurs approximately every four years, making bitcoin rarer over time. Preview below.

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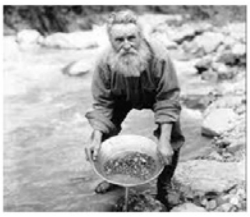
At the heart of the Bitcoin's economic model is a process known as the bitcoin halving. This is a predetermined event that halves the marginal supply of bitcoin. In a way, this mechanism, that controls the supply of bitcoins resembles the effects of diminishing mining rates in precious metal mines, contributing to bitcoin's scarcity and deflationary nature.

Blockchain and mining

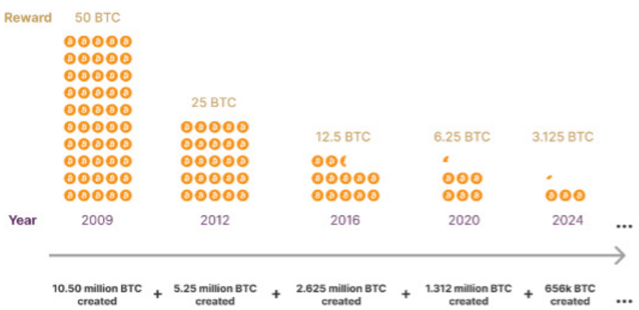
To fully understand halving, we need to look at the foundations of the Bitcoin blockchain.

The blockchain is a distributed ledger that records all transactions on a network of thousands of computers worldwide. This ledger is both public and immutable, enabling bitcoin's transparency and security, without the need for a central authority.

Another important point: Bitcoin is a proof-of-work network. This is why it relies on miners to validate transactions and include them in blocks. Mining essentially consists of adding transactions to this ledger, using computers and software to solve complex cryptographic problems. When a miner succeeds in solving one of these problems, he or she adds a "block" of transactions to the blockchain and is rewarded with a predetermined amount of bitcoins.



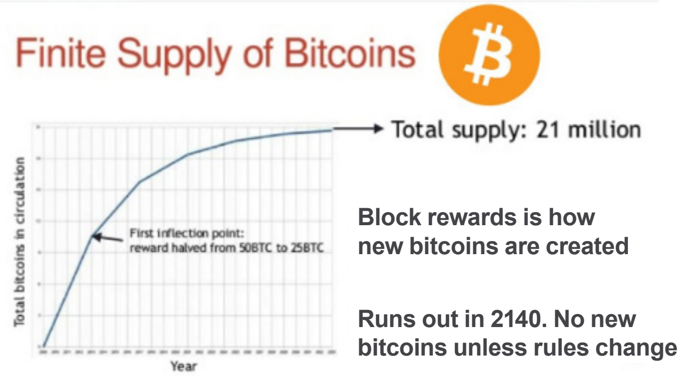
When Bitcoin was launched, miners were rewarded with 50 bitcoins for each block they mined. However, the Bitcoin protocol stipulates that every 210,000 blocks, the miners' reward is halved, a process that takes roughly 4 years. During the first halving, in November 2012, the reward per block fell from 50 to 25 bitcoins. The second and third halving took place in July 2016 and May 2020, with the rewards dropping to 12.5 and 6.25 bitcoins respectively. This time, the block reward will drop from 6.25 BTC to 3.125 BTC.



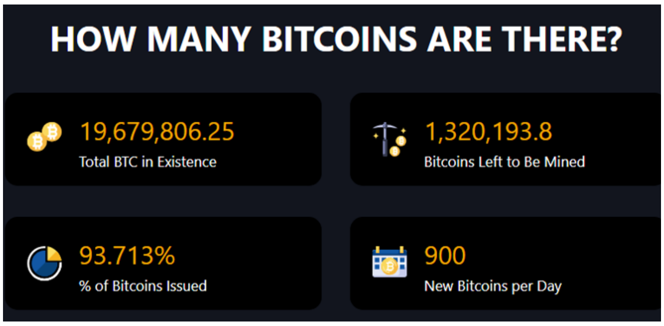
Source : River Learn

The importance of halving lies mainly in the scarcity effect it gives bitcoin. To understand this, let's look at bitcoin's supply and its deflationary model.

The total supply of bitcoins is limited to 21 million tokens. At the time of writing, over 93.7% of this supply is already in circulation, for a total of around 19.7 million BTC. The last bitcoin is expected to be mined by 2140... Yes, you read that right, another 116 years until the final bitcoin is mined.

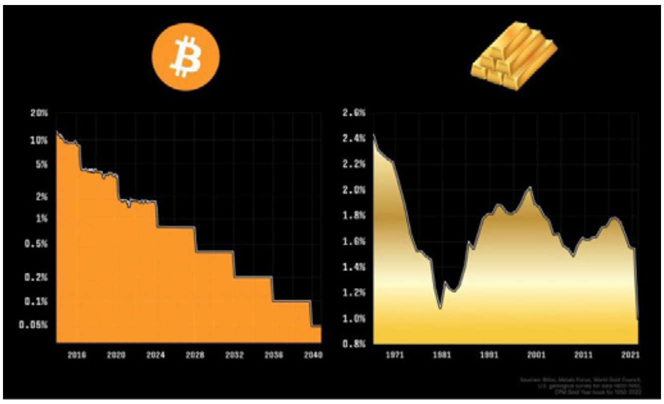


Every day, an average of 144 blocks are mined, equivalent to 900 new BTC per day. Its inflation rate is therefore currently around 1.8%. This rate is much more attractive than that of most fiat currencies, which means that your bitcoins won't lose their value over time, unlike your dollars or euros.



Source : Bitbo

With each successive halving, the daily supply of tokens - and therefore bitcoin's inflation rate - halves. In fact, following the halving of April 19, 2024, bitcoin's inflation rate will fall below that of gold for the first time in history.



Source : Bitcoin Magazine

Today, the main value proposition for bitcoin seems to be its function as a superior store of value, and the "halving" is precisely what makes this function possible. It is this perception of ultimate store of value that has earned bitcoin the nickname "digital gold". Thanks to the mechanisms of mining and halving, bitcoin will become rarer and rarer over time. This is the basis of the "stock-to-flow" model (see article “What is Bitcoin’s target price?”). This model suggests that as scarcity increases, so does the value of the asset. This scarcity phenomenon is particularly important in today's fiat money system, where central banks and governments print money almost without limit.

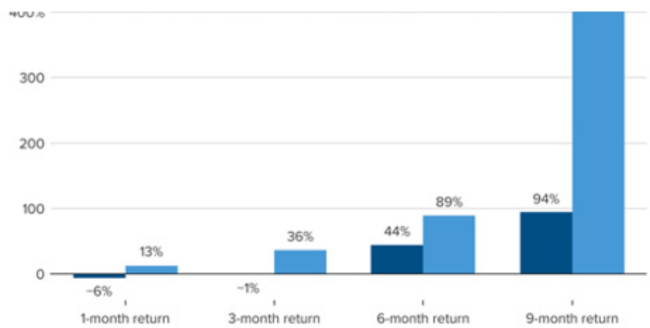
These "halving" events are of great importance to bitcoin investors and miners alike, because of the strong implications they have for the dynamics of supply and demand, the price of bitcoin and the profitability of miners.

What impact does “halving” have on the bitcoin price?

Given that only three halving’s have taken place in bitcoin's history, past performance cannot be considered statistically significant. However, it's worth recalling Bitcoin's behavior during previous "halving" periods.

After the first Halving in 2012, bitcoin's price soared from around $12 to over $1,000 in December 2013. The second Halving, in 2016, also preceded a remarkable bull run, with prices rising from around $650 to over $19,000 in December 2017. By the third Halving, in May 2020, bitcoin had fallen back to around $8,000, before reaching new all-time highs above $60,000 in early 2021.

Halving therefore usually has a very positive effect on the price, particularly in the 6 to 9 months following the day of halving (see chart below).



Source : Coin Metrics

An analysis by Plan B has even shown that the entire rise in bitcoin has taken place around the halvings. So, if you bought bitcoin 6 months before each halving and sold it 18 months after (green line), you would have 4 bitcoins in your wallet instead of 1 bitcoin had you employed a strategy of buying 18 months after the halving and selling 6 months before.

Source : PlanB

Of course, not all of these price movements can be attributed to the effects of halving alone, as many other economic factors, regulatory developments and investor sentiment come into play. But the halving phenomenon undeniably had a positive effect on performance in the months leading up to and following the event.

Why might the halving of 2024 be different?

Past performance is not indicative of future performance. Meaning, there's no certainty that the price of bitcoin will rise as a result of halving. Some also point to the fact that post-halving performance has declined over time: after the halvings of 2012, 2016 and 2020, the price of bitcoin increased 93-fold, 30-fold and 8-fold, respectively, between the day of the halving and the peak of the cycle.

Bitcoin halvings and cycle tops

	Halving date	Halving day price	Cycle top	Top price	Return
Cycle 1	11/28/2012	$12.50	11/29/2013	$1,163	93x
Cycle 2	7/9/2016	$638.51	12/15/2017	$19,333	30x
Cycle 3	5/11/2020	$8,475	11/10/2021	$68,982.20	8x

Source : Coin Metrics

However, this trend could be reversed this year, not because of a supply shock, but rather because of a new demand shock. With the advent of bitcoin spot ETFs, demand for Bitcoin is stronger than ever, and far outstrips the quantity of bitcoin produced by miners. In March, demand from bitcoin spot ETFs alone amounted to 66,008 tokens, while miners produced just 28,513 tokens over the same period (see chart below). After April 19, this daily production by bitcoin miners will be halved, creating an even greater supply-demand imbalance.

Source : Coin Metrics

The halving of 2024 combined with new demand for bitcoin from ETFs is likely to create an explosive cocktail. What makes the halving of 2024 unique is that bitcoin has already surpassed the peak of the last cycle - something it had never done before the quadrennial event. This phenomenon makes any attempt to predict the length and breadth of this cycle much more complicated.

What about miners?

Miners, who play an essential role in Bitcoin's operational infrastructure, are perhaps the hardest hit by this halving. Clearly, if the reward for mining decreases, miners' incomes also decrease, assuming all other things remain equal. This can reduce the profitability of mining operations, particularly those with higher operating costs. It is already estimated that, after halving, average operating costs will exceed $80,000, meaning that the BTC price must trade above this amount if miners are to continue to operate profitably.

In a sector as innovative as crypto-currency mining, players' adaptability and flexibility are crucial to survival, and miners have already begun to implement several strategies due to the reduction in the reward mechanism. One popular strategy is to relocate to areas with lower electricity costs, as the mining process is very energy intensive. Another similar approach is to move to regions with a more favorable climate to reduce cooling costs, as large amounts of electricity are required not only for the mining itself, but also to prevent the hardware from overheating. Other miners have decided to join mining pools to group computing resources and share rewards, thus mitigating the risk of fluctuating revenues.

The halving events have also indirectly stimulated innovation and improved efficiency in Bitcoin's mining technology. The industry has evolved from the use of basic CPUs (central processing units) to more advanced GPUs (graphics processing units), and finally to custom ASICs (application-specific integrated circuits), designed specifically for Bitcoin mining. These technological advances have considerably increased the computing power and efficiency of mining operations. However, due to the high costs associated with operating this sophisticated mining equipment, participation may be limited to a few players with significant resources, raising legitimate concerns about centralisation.

After a very strong rise in their share prices, bitcoin miners' shares (represented below by the Valkyrie bitcoin Miners ETF) have suffered since the start of 2024, despite the sharp rise in the bitcoin price. In the post-halving period, selectivity will be the order of the day: the weakest miners may simply disappear, allowing the survivors to gain market share. It's a typically Darwinian process, which should create attractive alpha opportunities for seasoned investors.

Source : CNBC

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