Research On The Influences Of The Bitcoin Halving

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Abstract

Bitcoin’s third halving is on its way. Whether it will spur a bull market or not has also become a frequently discussed topic in the crypto space. This Gate.io research report analyzes the impact that the Bitcoin halving could bring to the price of Bitcoin and different stakeholders, and the security issues it might cause.

Gate.io Research has observed and analyzed the price fluctuations before and after the previous two Bitcoin halvings. Both price movements show a U shape curve; six months before the halving began, the price increased; while one month before the halving began, the price started to decrease. After 1-1.5 years, the price peaked due to other social contributing factors, and after that, the price plunged, followed by a bear market that lasted for 1 to 2 years. The peak that occurred at the end of 2013 was due to the Bitcoin hype in China, while the peak that occurred at the end of 2017 was because of the emergence and development of ICOs.

To better understand the impact the next Bitcoin halving will bring, Gate.io research has monitored on-chain data such as the number of addresses and trading volume of Bitcoin
over the past year and analyzed the recent variations of market sentiment, regulations, and the social environment. Based on the analysis, we believe that Bitcoin has become more mature and stable as an investment. We also applied modeling analysis of miner’s cost of income and simulated the price of bitcoin with Monte Carlos Simulation. We have determined that most miners will not suffer from losses in most cases if they intend to hold Bitcoin long term.

Key Takeaways:

- The current market sentiment is becoming more positive; regulators from different countries are also taking a positive stance on the legalization of Bitcoin.
- In the previous halvings, the price movement of Bitcoin showed U shape curves, while, as of now, Bitcoin has developed to be more mature and stable as an investment asset.
- Despite all the uncertainty factors, based on our simulation of the variation of Bitcoin price, the price could reach as high as 200,000 USD (this result is only concluded from the simulation and does not serve as a reference of investment).
- Based on our simulation of the miners’ cost, we believe that if miners hold Bitcoin for the long term, the probability of suffering from losses is small. This could also affect market performance after the halving.
- The Bitcoin halving has an impact on multiple stakeholders, of which the miners are the
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most affected. With the possibility of miner’s income decreasing, miners might stop mining or maintaining the network, resulting in security issues.

1 Summary of the Bitcoin Halving

As the halving causes reduced block rewards, Bitcoin’s third halving will have a direct impact on the Bitcoin blockchain, which may pose threats to network security.

1.1 Influences of the Halving

Normally, the miners have to consume substantial electricity, the main cost of mining, to get the block reward, which is the primary income of them. The current block reward before the third’s halving is 12.5 BTC, which can still cover the cost of the electricity consumption of the miners. With a lower income after the halving, miners are confronted with the dilemma of whether to continue mining or leave owing an excess to the huge consumption. Besides, the miners also have to cope with the performance enhancement of the mining machines.
1.2 Potential Security Problems Caused by the Halving

The price fluctuations of Bitcoin and the miners’ gain or loss brought by the mining determines how the BTC halving affects the security of the whole blockchain. If the miners’ interests can’t get enough guarantee, the number of BTC blockchain users may relatively decrease as some miners leave, which potentially increases the risks to the network.

Conversely, if the BTC price keeps stable or goes up, the cost of the miners will diminish so that they are willing to keep on maintaining the security of the network.

1.3 Rules of the BTC Halving

To avert the inflation of BTC, Satoshi Nakamoto confined the BTC amount to 21,000,000 and regulated the rules of the mining. The following graph shows the relationship between the total circulation of BTC and the mining mechanism.
As shown in the graph, whenever a new block is created, the block reward will gradually cut down until it finally reaches the upper limit of 21 million. This kind of continuously decreasing mechanism determines a reducing inflation rate of BTC which will be lower than 2% after the third’s halving, making BTC have a value preservation effect similar to that of the gold. We will proceed with the analysis of the base price of the BTC halving and anticipate its movement after the halving in 2020. Among all the aspects of the halvings that have captured the attention of the public, the price is the most prominent.

1.4 The History of the BTC Halving

We are going to anticipate the trends of the BTC price in 2020 by looking at the data from the past.
1.4.1 The First Halving

Five months after the first BTC halving, its price arrived at a small peak, seven months after which it rocketed to the summit and then began to fall (For more events about BTC from 2012 to 2014, please refer to Gate.io Research: Research on The Past Events and Price of Bitcoin During Lunar New Year). BTC computational power (hash rate) was extremely low at 1PH/t before the halving. However, it grew dramatically after the halving and remained at high speed of growth despite the drop in the BTC price.
It can be seen in the above graph which presents a moderate “U” trend of the price and the hash rate that the price had a slight dip but became steady before the halving, and there was a rapid upward trend in the price of BTC, six months after the halving.

1.4.2 The Second Halving
Seventeen months after the second halving, the BTC price jumped to the peak on December 17th, 2017. However, with the bursting of the ICO bubble, it drastically sank later. From 2018 to 2019, when the price continued to decline, Chinese new policies about the blockchain attracted people’s attention. In that mid-late period, the ICO financing and the scarcity of BTC promoted the rise of price to another peak. As the markets gradually recovered, the price slightly declined and became steady (For more events about BTC from 2016 to 2017, please refer to Gate.io Research: Research on The Past Events and Price of Bitcoin During Lunar New Year).

The BTC computational power (hash rate) maintained its range at 50PH/t~150PH/t with a monthly average growth of 10% before the halving. After that, the hash rate surged at a rapid speed with a maximum increase of 37 times, as of 2018.
The rate of the rise and fall of the price and the hash rate can be seen in the above graph. There was a slight reduction in the price before the halving, and it bounced back after the halving. At present, the BTC price is also mildly decreasing in this window of 3 months before the 2020 halving in May. Combined with the "U" trend of the first two halvings, we could look forward to the growth of price after the halving in 2020.

1.4.3 Conclusion

To effectively infer the trends, the following passage concludes a periodic table of the first two halvings by analyzing the price changes.

<table>
<thead>
<tr>
<th>The Year of Halving</th>
<th>Price of the Day (USD)</th>
<th>Comparison to the current price</th>
<th>Rate of Rise and Fall of BTC Price Before and After the Halvings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>The price before 9 months</td>
</tr>
<tr>
<td>2012</td>
<td>$12.27</td>
<td>About 801 times</td>
<td>150.03%</td>
</tr>
<tr>
<td>2016</td>
<td>$650.63</td>
<td>About 14 times</td>
<td>163.85%</td>
</tr>
</tbody>
</table>

Source: bitinfocharts.com (by 2020-02-23) ; Gate.io Research
According to the graph, the BTC price gradually rose after both halvings, which is good news for BTC. If we look at the hash rate, both halvings resulted in a moderate drop of it in the short time, from which we can presume that a part of the miners left the BTC network on account for the short-term loss. However, the hash rate is still significantly increasing in general.

1.5 The Litecoin Halving

The halving mechanism is a useful method to contain inflation. Besides BTC, Litecoin (LTC) also has this mechanism, which comes out with a different result. The below tables describe the changes in the LTC price and its computational power before and after the halvings.
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<table>
<thead>
<tr>
<th>Year</th>
<th>Price of the day (USD)</th>
<th>Comparison to the current price</th>
<th>The price before 9 months</th>
<th>The price before 6 months</th>
<th>The price before 3 months</th>
<th>The price before 1 month</th>
<th>The price after 1 month</th>
<th>The price after 3 months</th>
<th>The price after 6 months</th>
<th>The price after 9 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>$2.97</td>
<td>About 25 times</td>
<td>-16.51%</td>
<td>65.40%</td>
<td>65.13%</td>
<td>-35.64%</td>
<td>-3.44%</td>
<td>20.48%</td>
<td>12.93%</td>
<td>36.58%</td>
</tr>
<tr>
<td>2019</td>
<td>$97.66</td>
<td>-20.12%</td>
<td>82.10%</td>
<td>187.20%</td>
<td>27.65%</td>
<td>-17.97%</td>
<td>-32.14%</td>
<td>-35.38%</td>
<td>-27.62%</td>
<td>/</td>
</tr>
</tbody>
</table>

*Source: bitinfocharts.com (by 2020-02-23), Gate.io Research*

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<table>
<thead>
<tr>
<th>Year</th>
<th>The hash rate of the day (TH/s)</th>
<th>Rate of Rise and Fall of BTC Hash Rate Before and After the Halvings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Comparison to the current hash rate</td>
<td>The price before 9 months</td>
</tr>
<tr>
<td>2015</td>
<td>0.12</td>
<td>-22.96%</td>
</tr>
<tr>
<td>2019</td>
<td>45.83</td>
<td>-61.97%</td>
</tr>
</tbody>
</table>

*Source: bitinfocharts.com (by 2020-02-23), Gate.io Research*

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**The Changes in Litecoin’s Price Before and After the First Halving**

**The Changes in Litecoin’s Price Before and After the Second Halving**
Litecoin that experienced the same two halvings lacked a rising motivation of price. For the computational power (hash rate) of LTC, there is an evident growth before the second halving, but it turned out to decline sharply close to the halving period. We assume that the miners had a strong speculative mentality for the block reward, so they were inclined to keep mining before the halving. After the halving, which caused lower income for the miners, they shifted to other cryptocurrencies for benefits. That’s why the LTC price and its hash rate will fall after the halving.

1.6 Conclusion from the Analysis of the Bitcoin Halvings

BTC halving can reduce inflation by reducing the number of BTC. From the first two halvings, the BTC hash rate dropped a little in a short period. Overall, both halvings facilitated the rise of the price and hash rate. Although the LTC halvings brought negative news to the LTC price and its hash rate, it has not happened to BTC yet. We still need to focus on the research on the potential effects of this coming halving.
According to the bitcoin blockchain record in 2019, the Bitcoin market stayed relatively stable although there were fluctuations in the trading volume and the numbers of active address and new address.
2.2 The Impact of Bitcoin Halving

Bitcoin, a digital currency that can be traded publicly, is similar to tangible goods, which means its price is subject to various factors. The investment in Bitcoin is directly affected by regulations, policies, the economy, politics, and culture.

2.2.1 The Analysis of Bitcoin Investor Sentiment During 2019 and 2020

The index of Bitcoin investor sentiment can show whether investors are confident in Bitcoin investment. If the index climbs to 100, investors are fully confident in investing Bitcoin.

According to the chart, it is expected that the price of Bitcoin will witness an increase as the index is on the rise between January and February in 2020 for investors. The increasing index
also indicates that investors are more willing to participate in Bitcoin trading.

### 2.2.2 The Impact of Bitcoin Halving on Policies

Despite the endorsement of the blockchain technology by the Chinese government, it still imposes strict regulations on the trading of digital currency.

From a global perspective, public awareness of digital currency was enhanced by the launch of Libra by Facebook in June 2019. In November 2019, the SFC of Hong Kong issued warnings on virtual asset futures contracts and a position paper setting out a new regulatory framework for virtual asset trading platforms. The position paper emphasizes that the SFC will only grant licenses to platform operators who are capable of meeting robust regulatory standards. This means it is possible for the trading of digital currency to become legal in Hong Kong. On 28 January 2020, the Monetary Authority of Singapore (MAS) announced the commencement of the Payment Services Act (PS Act). The law mandates the implementation of a licensing regime that applies to payment providers, exchanges and other platforms dealing with cryptocurrencies. This marks the legalization of cryptocurrency trading in Singapore. On February 11, 2020, Ukraine’s Ministry of Digital Transformation published a document announcing that the government will not be regulating crypto mining in the country as the ministry was convinced that crypto mining does not require regulatory activity with the governance by the protocol itself. All these facts show that it is a prevailing trend to legalize the trading of cryptocurrency. However, governments should attach great importance to the supervision of cryptocurrency exchanges reasonably and legitimately.
the following paragraphs, the possibility of an increase in the price of Bitcoin will be predicted through Monte Carlo models.

2.3 The Simulation of the Price of Bitcoin

The price of Bitcoin in the future is predicted and analyzed through Monte Carlo models. However, the predicted price can’t serve as a reference for investment. Investors should take multiple factors into account when investing in Bitcoin.

2.3.1 The Simulation of the Price of Bitcoin

Gate.io Research simulates the future price of Bitcoin through Monte Carlo models. The price is calculated based on an equation: Today’s price = Yesterday’s price \times Rise (The predicted price can’t serve as a reference for investment.)

Thus: \( Pt = Py \times \text{Rise} \)

\[ \text{Rise} = \frac{Pt}{Py} \]

\[ r = \ln(\text{Rise}) = \ln\left(\frac{Py}{Pt}\right) \]

In the equation, \( Pt \) and \( Py \) stand for the price of today and the price of yesterday, respectively. \( \text{Rise} \) is the rate of variation in the price. \( R \) represents the natural logarithm derived from dividing the price of today by the price of yesterday.

Thus: \( Pt = Py \times e^r \)

Parameter \( R \) is a random variable, its randomicity can be simulated by Brownian Movement.
The simulation is based on the closing price of Bitcoin during the last 5 years. Ten groups of Bitcoin’s price in the future are predicted through Monte Carlo models.

The chart below shows the highest price in the ten groups. According to the chart, the highest price of group 4 is close to 200 thousand USD, which is higher than any listed prices.

<table>
<thead>
<tr>
<th>Group</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>Group 5</th>
<th>Group 6</th>
<th>Group 7</th>
<th>Group 8</th>
<th>Group 9</th>
<th>Group 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>The highest price</td>
<td>62418</td>
<td>21925</td>
<td>25270</td>
<td>202525</td>
<td>55981</td>
<td>32748</td>
<td>110713</td>
<td>126960</td>
<td>136838</td>
<td>46194</td>
</tr>
<tr>
<td>Ranking</td>
<td>5</td>
<td>10</td>
<td>9</td>
<td>1</td>
<td>6</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>
In terms of the simulated data, it is evident that the price of Bitcoin will see an increase, supported by the closing price in the past. The highest price of the ten groups is higher than the record high at present, which is also supportive of the rise in its price. However, the models are based on hypotheses and assumptions. In reality, Bitcoin’s price is subject to other unforeseeable factors. The halving will have a short-term impact on the mining industry. The following paragraph will analyze the development of the industry after the halving.

3 Development Trends of the Mining Industry after Halving

The development trends of the mining industry are the indicators of the Bitcoin price movement. If miners believe that the industry becomes stagnant and therefore selling the Bitcoin fast, not only the price of Bitcoin can get affected, the safety of the Bitcoin network can be compromised, and the mining profit will continue to decrease.

3.1.1 Components of Miners’ Income

A mining rig gains its bookkeeping right by calculating hashes and consuming electricity. To get Bitcoins as rewards, which can be accepted as payment in many circumstances nowadays, more nodes are motivated to join the network, maintaining the value consensus of the system. To be more specific, miners are the ones who run the nodes, record the transactions, and gain Bitcoin as rewards through the process of mining. The mining difficulty varies with
the computing power of the entire network. The computing power refers to the ability of a mining rig to calculate the hash, and it is mostly decided by the computing chip of a mining rig. A computing chip is the core component of a mining rig, which contributes 80% of its production cost, and currently, ASIC chips are one of the most common mining chips.

Whether a miner can gain profit or not and the time it takes to gain a profit are the main incentives and concerns for miners. Therefore, we name these key contributors as “mining efficiency” (or computing energy consumption).

\[
\text{Mining Efficiency} = \frac{\text{Electricity Consumption Rate}}{\text{Hash Rate}}
\]

As the computing power of the entire network increases, the mining difficulty also increases. Mining rigs with more powerful computing power are introduced to maintain mining efficiency and profitability. Take the Antminer S17 67T as an example, its mining efficiency (W/THs) is 2680W/67T=40W/THs; the cost of the computing power is ¥12595/67T= ¥188/THs, the computing power (TH/s) is calculated based on SHA-256 hash algorithm.

\[
\text{Payoff Period (PP)} = \frac{\text{Price of mining rig (P)}}{\text{Mining Gain (G)}}
\]

\[
\text{Mining Gain (G)} = \text{Minning Revenue (R)} - \text{Mining Cost (C)}
\]

The major mining cost is the electricity fee (other uncertain costs are not considered in this research). Miners tend to join mining pools where miners’ computational resources are combined and optimized. The mining pools also collect and distribute the rewards and charge certain service fees. Currently, other than major mining pools or mining farms such as Canaan Creative, Bitmain, and Ebang, smaller mining pools or mining farms may suffer from
funding issues after the halving.

As mentioned earlier, the mining difficulty varies with the computing power of the entire
network, when the computing power increases, so does the mining difficulty. When mining
difficulty equals “1”, it takes $2^{32}$ times of hashing to pack a new block. Thus, Block Time =
(Mining Difficulty x $2^{32}$ )/ network computing power; thus, Mining Revenue Per Day = Miner’s
Mining Power/ (Mining Difficulty x $2^{32}$ ) x Bitcoin Block Reward x Time (in this formula Mining
Power is calculated in TH/s).

### 3.1.2 Simulation Model of Miners’ Cost of Income

In the previous chapter, we have already simulated the trends of Bitcoin price, and in the
following session will use part of that data to simulate Miners’ cost of income. To improve
the accuracy of this model, the median of the price in the chart below – the price of Group 5,
will serve as the price in the simulation.

<table>
<thead>
<tr>
<th>Group</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
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<td>6</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>

Note: The predicted price is based on hypotheses and assumptions. Therefore, they can’t serve as a reference for investment.

The mining difficulty of Bitcoin will be set to increase by 3% every 14 days.
Based on the simulation price and mining difficulty, take the mining rig Avalon A1066 as an example, the price of the equipment is ¥ 5,900 (about $842), computing power 50 TH/t, power consumption 3,250W. If the electricity cost ¥ 0.50/KWh, the block reward is 12.5 BTC within 100 days, after that the block reward will decrease to 6.25, the miner’s revenue per day can be calculated as:

\[
\frac{K_s}{D \times 2^{32}} \times R \times (24 \times 3600) \times P_t
\]

Ks is the miner’s computing power, D is to the mining difficulty, R is the block reward while Pt is the Bitcoin price of the day.

Thus, the miners’ revenue is:

\[
\frac{5 \times 10^{12}}{D \times 2^{32}} \times R \times (24 \times 3600) \times P_t
\]

Miner’s cost is:

\[
(P_w \times 24 \times 0.5/\text{rate}) \times d + P_k + \text{others}
\]

Pw is the power consumption of the mining rig, which is 3.25KW as assumed; rate is the exchange rate between US dollars and Chinese yuan, which is set as 7; others are the uncertain contributors that are not included in this research, which is set as 10% of the miner’s cost per day.

The total cost is:

\[
5.5714 \times d \times (1 + i) + 842
\]

d is the day used for mining, i is the rate of floating cost (10% of the total cost), Pk is the price of the mining rig.

Assuming that the miner sells his or her Bitcoin every day, the result of the simulation is shown as the graph below:
According to the graph, after the halving, miner’s per day revenue drops dramatically, and with the increasing mining difficulty, it continues to decrease. As for the accumulative mining gain, it shows an upward trend after the halving and slowly rises. Later, with the growth of Bitcoin price, miner’s revenue starts to increase again, while mining difficulty still grows steadily. In such a case, the mining cost is much greater than the gain, and it seems inevitable that miners will no longer gain a profit from mining in this simulation.

However, some miners might hold Bitcoin for the long term, from this perspective, we can calculate the Value of Coins a miner holds = Number of Coins Mined x Bitcoin Price of the Day. Thus:
\[
\sum \left[ \frac{K_s}{D \times 2^{32}} \times R \times (24 \times 3600) \right] \times Pt
\]

The result of the simulation is shown as in the graph below:

![The Simulated Miner’s Earning (No.2)](image)

Source: Gate.io Research

According to this graph, although the number of coins mined by the miner per day suffers from a sudden decrease, the value of the Bitcoin a miner holds increases as the Bitcoin price grows higher, and eventually resulting in positive gains compared to the mining cost. In such a case, miners can gain profit from mining in this simulation.

The simulations above suggested that if miners hold Bitcoin for the long term, and avoid selling fast frequently, they can still gain certain profits even after the halving. If most miners can continue to profit, they are more likely to stay in the network. With the chances of the
network being unattended, the probability of having security issues becomes smaller, which can also push the market forward after the halving.

3.1.3 The “Shut-Down Price” of Mining Rigs

When Bitcoin price drops to a certain point, a mining rig might cost much more money than it can gain and can no longer make profits. This suggests that it is time for miners to shut it down, ergo “the shut-down price.” We randomly chose some mining rigs on the market (please note that our choice of mining equipment does not serve as a reference for investment), and calculated their shut-down price after the halving. The shut-down price = mining cost per day/ number of bitcoin mined per day, service fee from the mining pool, transaction fees, and other handling fees are not considered in this calculation. The chart below shows the shut-down price of these mining rigs.

<table>
<thead>
<tr>
<th>Mining rig</th>
<th>Computing power (TH/s)</th>
<th>Power Kw/h</th>
<th>The current shut-down price (USD)</th>
<th>The shut-down price after halving (USD)</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>AntminerS9</td>
<td>13.5</td>
<td>1.32</td>
<td>10325</td>
<td>23939</td>
<td>Available</td>
</tr>
<tr>
<td>AntminerS9i</td>
<td>14</td>
<td>1.32</td>
<td>9956</td>
<td>23083</td>
<td>Available</td>
</tr>
<tr>
<td>AntminerS9j</td>
<td>14.5</td>
<td>1.35</td>
<td>9831</td>
<td>22794</td>
<td>Available</td>
</tr>
<tr>
<td>AntminerS11</td>
<td>20.5</td>
<td>1.435</td>
<td>7392</td>
<td>17139</td>
<td>Available</td>
</tr>
<tr>
<td>AntminerT15</td>
<td>23</td>
<td>1.541</td>
<td>7075</td>
<td>16404</td>
<td>Available</td>
</tr>
<tr>
<td>AntminerS15</td>
<td>28</td>
<td>1.6</td>
<td>6034</td>
<td>13990</td>
<td>Available</td>
</tr>
<tr>
<td>AntminerS19</td>
<td>95</td>
<td>3.25</td>
<td>3612</td>
<td>8375</td>
<td>Upcoming</td>
</tr>
<tr>
<td>AntminerS19 Pro</td>
<td>110</td>
<td>3.25</td>
<td>3120</td>
<td>7234</td>
<td>Upcoming</td>
</tr>
<tr>
<td>WhatsminerM10</td>
<td>33</td>
<td>2.145</td>
<td>6864</td>
<td>15915</td>
<td>Available</td>
</tr>
<tr>
<td>WhatsminerM20S</td>
<td>68</td>
<td>3.624</td>
<td>5627</td>
<td>13046</td>
<td>New Arrival</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Model</th>
<th>Hash Rate</th>
<th>Profitability</th>
<th>Power Consumption</th>
<th>Price</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whatsminer M20</td>
<td>45</td>
<td>2.16</td>
<td>5068</td>
<td>11750</td>
<td>New Arrival</td>
</tr>
<tr>
<td>Whatsminer M21S</td>
<td>54</td>
<td>3.24</td>
<td>6336</td>
<td>14690</td>
<td>New Arrival</td>
</tr>
<tr>
<td>Avalon Miner A741</td>
<td>7.3</td>
<td>1.1</td>
<td>15912</td>
<td>36893</td>
<td>Available</td>
</tr>
<tr>
<td>Avalon Miner A821</td>
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<td>1.2</td>
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<td>Available</td>
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<tr>
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<td>10478</td>
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</tr>
<tr>
<td>Avalon Miner A851</td>
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</tr>
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</table>

Source: tokenview (by 2020-2-26) Gate.io Research

**Note:**

1. The exchange rate between USD and RMB is set as 7; the electricity cost is ¥ 0.5/kw*h; the mining difficulty is set to increase 3% every 14 days.

2. The shut-down price only serves as a reference, as it is calculated under the circumstance where the computing power does not change after the halving.

According to the chart above, if the Bitcoin price fails to reach the "shut-down price" after the halving, miners are not able to gain profit and consider stop mining. However, considering that the Bitcoin price is likely to increase after the halving (based on the analysis...
from the previous two halvings), some miners will tend to choose mining rigs that are more cost-efficient when the Bitcoin price is relatively low. Miners are still able to survive the post-halving period, and after that, Bitcoin will usher in a new era at a higher price.

4 Conclusion

It is estimated that a Bitcoin halving, a mechanism designed by Satoshi Nakamoto, will occur 32 times. In the report, Gate.io Research introduces the technical aspects of the halving with a graph showing the relationship between the inflation rate of Bitcoin and the halving, in the context of the impending third halving. Moreover, the impact of the halving on miners’ earnings is also elaborated on in the report. For miners, the halving is a big event as their only source of income is a block reward. On the other hand, their income also depends on the costs of electricity and mining rigs, which is also introduced in the report. Miners have to upgrade their mining rigs to pursue a higher hash rate. Theoretically, the halving is favorable to an increase in the price of Bitcoin. However, the price is also sensitive to trading, public opinion, policies, and supervision. At present, the Chinese government imposes strict control over the trading of digital currencies despite its endorsement of the research and application of blockchain technology. A majority of countries hold an optimistic attitude towards Bitcoin, which can contribute to relaxed supervision and positive public opinion. As a result, for investors and miners, their confidence can be boosted with a stable investment sentiment index. They should pay close attention to the changes in government regulation and the
Research on the Influences of Bitcoin Halving

March, 2020

Bitcoin mining hash rate.

Reference

[1] Gate.io (2020), Gate.io 减半页面


Disclaimer

Following disclaimers are made in regard to the above research:

- Based on due diligence and objective analysis by internal staff, the research compares the relevance of Bitcoin and gold, and should not be treated as the sole basis to predict the price of Bitcoin.

- The research is not a tool to evaluate the value of the research object or tokens is released. It does not constitute any basis for investors to make final investment decisions.

- Project Information quoted in the research is collected through methods that are considered trustworthy and accurate by internal staff. Information. Accuracy is subject to availability, because manual or mechanical errors may exist. No implicit or explicit statements or guarantees will be made as for the authenticity, correctness, completeness, and timeliness of related data in the report.