KEY METRICS OF THE CRYPTOCURRENCY MARKET

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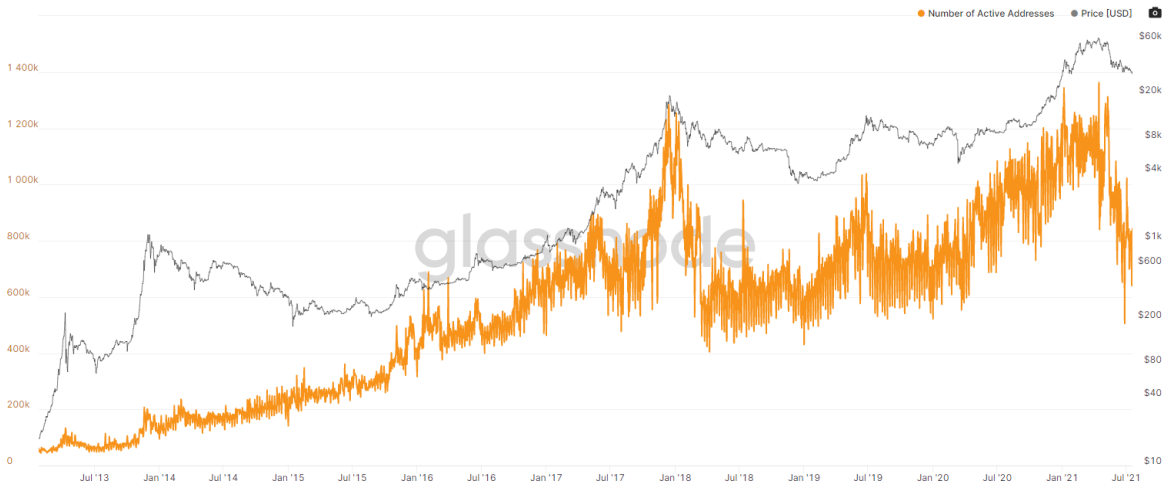
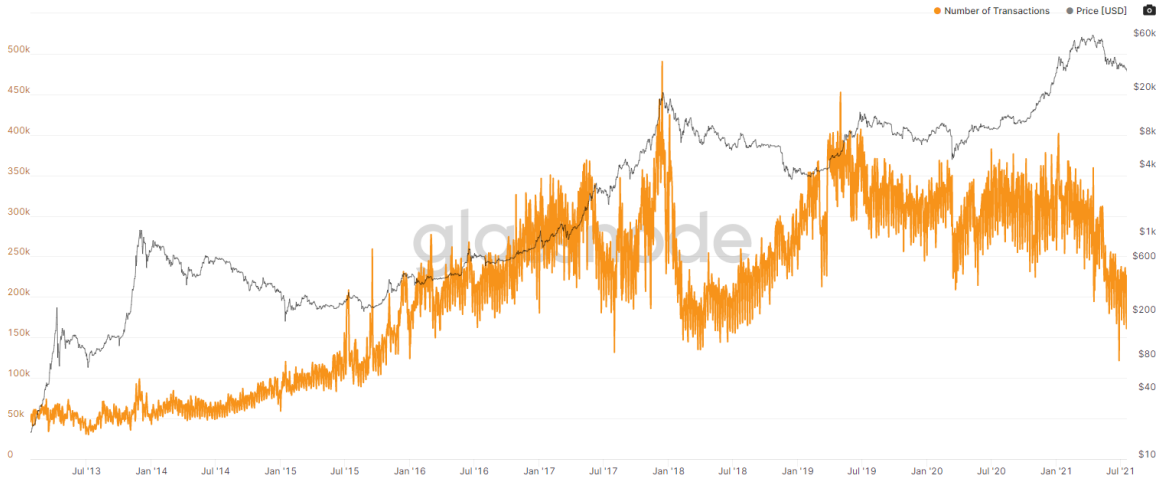
Key metrics of the cryptocurrency market

Since the inception of the cryptocurrency market, investors have attempted to find signals that would allow them to peek into the future, i.e. learn to predict erratic price fluctuations faster than everyone else. Digital assets are unique in encouraging such behaviour as there are other numerical metrics apart from the prices themselves that reflect the internal state of networks.

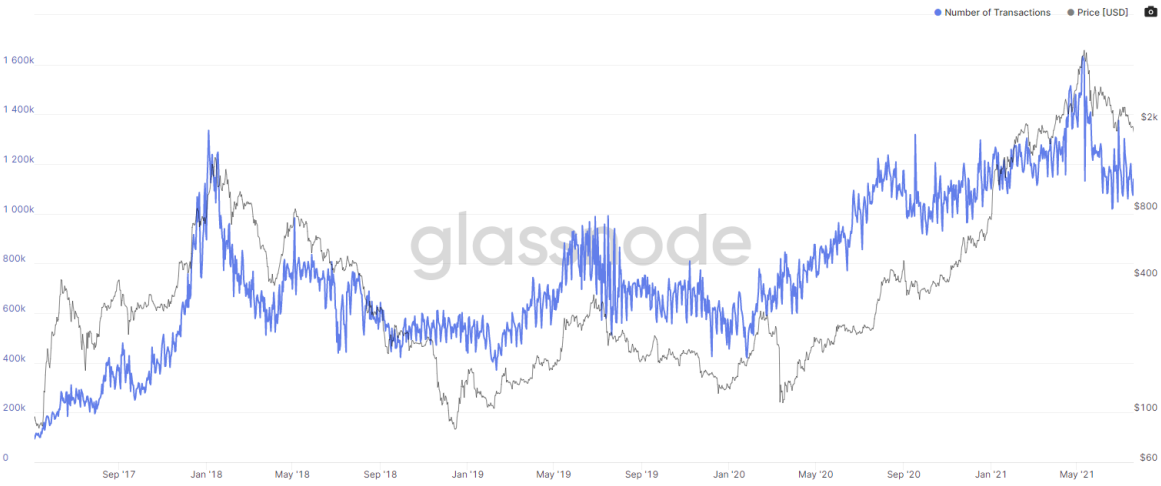
For instance, we can see that the number of active wallets (defined by having performed at least one transaction per day) increases and decreases in lockstep with the price of Bitcoin. It is worth noting that for the price highs of 2021, this metric failed to fully establish itself higher than the previous bullish market in 2017. The maximum number of active addresses in 2017 and 2021 were comparable, totaling 1.28 million and 1.36 million respectively.



Alternatively, we can observe the number of transactions in the network.
It is clear that BTC is not popular as a means of payment given that the number of exchange operations, even during skyrocketing prices in 2017, could not exceed 2019 highs.



Over the same period, the number of transactions in the Ethereum network has grown with the DeFi industry, allowing for a rise in user activity.



At first glance, analyzing digital currencies may seem simpler than predicting price movements in traditional stock exchanges given the former's greater transparency enabling any enthusiast to check the information within data blocks. Nevertheless, every subsequent crisis invariably catches a large percentage of traders unawares.

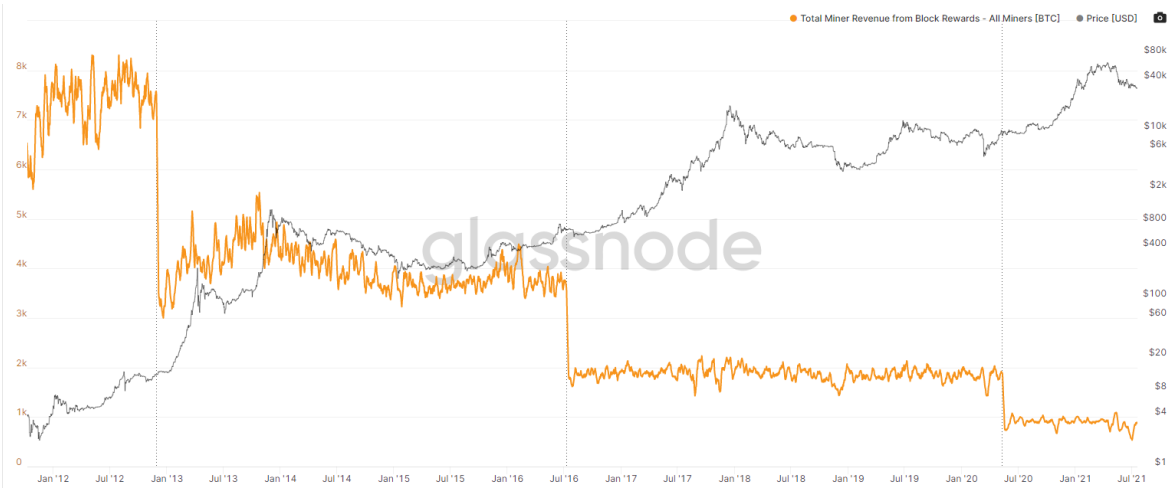
The issue is that fundamental information, such as the number of transactions or active users, does not possess predictive value and simply reflects the current market situation.

In other words, as prices grow, so too does the number of people wishing to become investors, whereas in periods of stagnation, the market becomes less appealing. Moreover, cryptocurrencies are foremost a speculative instrument, which means analyses

must be performed specifically of activity related to trading.
The Ethereum example clearly illustrates that metrics that reflect network activity can yield contradictory signals; they must only be considered alongside other indicators. Between September 2018 and February 2019, the number of transactions remained virtually unchanged (433 000 - 600 000 daily) as the price of ETH decreased from $211 to $104. A similar picture unfolded between February and August 2020: the number of transactions steadily rose approximately twofold, reaching 1.2 million, whereas ETH initially fell from $260 to $114. Only after returning to growth did it hit $385.
This article will break down the primary indicators that can provide an idea of the patterns observed in the cryptomarket, particularly as they pertain to Bitcoin. Moreover, it will compare not only how they performed during the May 2021 correction, but also during previous rapid price shifts.

Miner rewards

Perhaps one of the main metrics is the overall reward amount miners receive upon mining a block. One of Bitcoin's key features compared to traditional assets is limited emission, which serves as deflationary pressure on prices. The emergence of new coins occurs as a result of the processing of transactions by miners. The size of the reward is governed by the network's internal mechanism and halves every 210 000 blocks, or approximately once every four years (block creation time ~10 minutes). This process is known as "halving". Halving last occurred on 2012/11/28, 2016/07/09 and 2020/05/11. As we can see on the graph below, each halving event kickstarted a bullish cycle, spurring rapid growth.



The first reward halving sent prices up almost 9 000% in a single year. In the 18 months following the second halving, they went up by 2 800%. After the third, they increased 580%

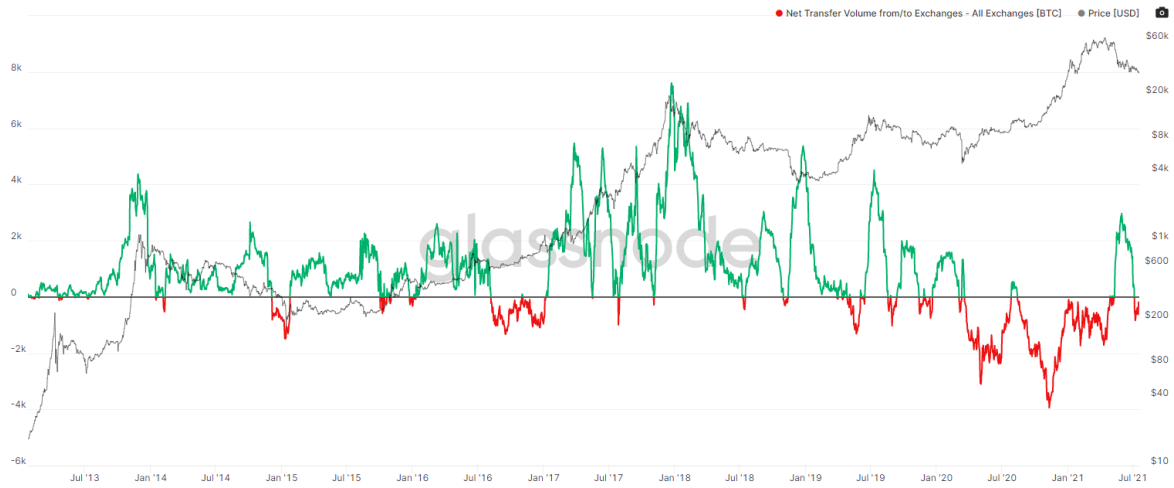
in just under a year. The next halving event is expected around March 27, 2024. Processes that influence the number of coins available for exchange are among the key determinants of the price of Bitcoin.

The inflow of coins to marketplaces

Long-term investors tend to keep their coins in wallets, and in doing so they withdraw them from circulation and lower the number of BTC available for trading. It is therefore highly advisable to track the inflow of cryptocurrency into exchanges, as this is generally done with the intention of locking in profits. “Whales”, or those who hold large amounts of coins, behave in a more calculated and rational manner than traders and speculators; they make purchases when prices bottom out and gradually sell them off as prices recover to newcomers eager to make a quick profit (we will see this in action later on in an example). Thus prices near record highs alongside a rapid net coin inflow (defined as inflow minus outflow) into marketplaces signal the potential start of a correction.
Points at which the number of coins entering exchanges exceed the outflow are marked in green. Investors tend to withdraw cryptocurrencies to their wallets during price lows and return them to exchanges near maximums.
The price crash in 2013 began at the very end of November, and in the first 10 days, the intraday net coin inflow grew from 2 578 to 5 591 BTC.

2017 is marked by four maximum coin inflows into exchanges, but due to massive excitement and a large inflow of new investors, the ramifications for the price of BTC unfolded much later, beginning only in December. The number of coins continuously grew from the beginning of August, and the net inflow amount held steady at a high level a month before the correction started.

In 2020, the metric began its rapid rise from April 24 (198 BTC) to May 19, the day the cryptocurrency market crashed (4 821 BTC). It is difficult to neglect the fact that, compared to previous cycles, recent activity looks weaker. Following the protracted period of BTC withdrawal from exchanges (which had been happening essentially since August 2020), a single, massive injection of coins into marketplaces occured. This suggests the “fuel” for further price growth is preserved.



The «fair» value of Bitcoin

Since a large part of the issuance of cryptocurrencies is not available for trade, there arises a need to calculate a more "advanced" version of capitalization which provides a clearer picture of the market situation. The realized value is the value of the cryptocurrency at the time of the last completed transaction. In the case of Bitcoin, its realized value is the value of every BTC at the time of the last transaction performed involving it. This data can then be used to derive the realized capitalization.

The MVRV Z-score indicator was created to compare the market and realized capitalization of Bitcoin. The formula is rather simple: realized capitalization is subtracted from market capitalization and is then divided by the standard deviation of market capitalization. Once the "total" indicator significantly exceeds the "realized" indicator, it signals the presence of a bubble.

This metric worked well in 2013, 2017 and 2021: in each of these years, the deviation of market capitalization from realized capitalization predicted the imminent end to a rally and the beginning of a correction over 7 times (displayed in the graph below). Yet again, examining the most recent case shows that the metric did not rise as much as previous instances when the difference between the capitalizations increased tenfold. In May, the MVRV Z-Score did not even reach 8, suggesting that Bitcoin looked far less overheated than in previous cycles.

«Fair» profit from Bitcoin

Yet another indicator based on the realizable value of Bitcoin is "net realized profit/loss". Realized profit is the overall dollar profit of all active coins whose value at the time of the previous transaction was lower than its current value. It is meant to demonstrate what overall profit amount traders can attain at a given moment in time. Likewise, realized loss reflects the opposite case. Net realized profit/loss is defined as the difference between realized profit and loss.

The logic is simple: deals are made toward a specific end: to generate profit. The number of sellers grows with price. The higher the prices, the more the investors wish to close their positions. This metric allows one to identify critical moments at which the temptation to close a position can arise among a large number of traders and have a significant impact on price. The price can nonetheless still rise for some time even after the signal appears primarily due to the activity of inexperienced novices.

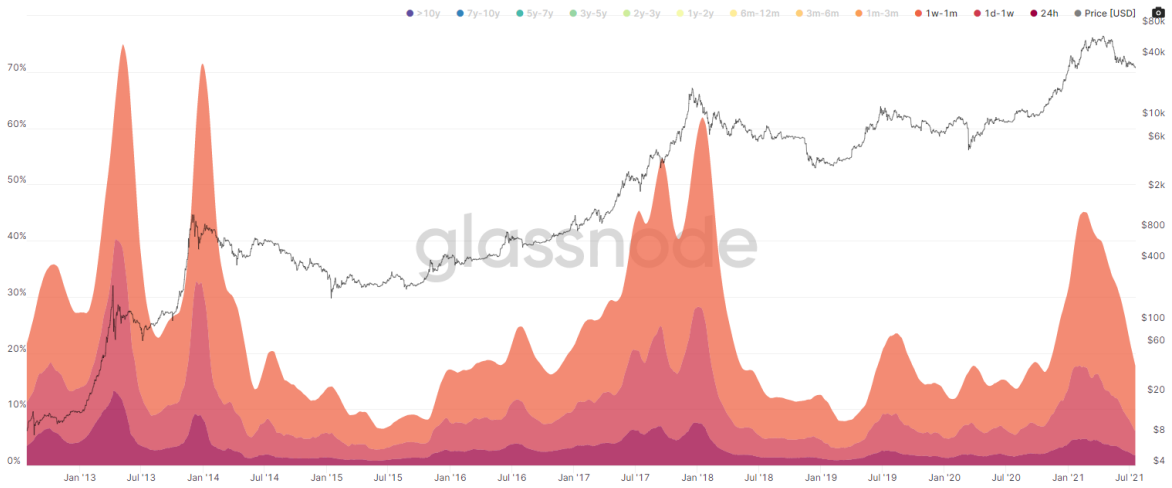
In the week before the beginning of the price crash in 2013, the metric rose sharply, reaching $219.3 million. In the 10 days leading up to the correction in 2017, net profit grew from $771 million to $4.1 billion. The 5 billion dollar mark was surpassed several times in 2020.

Coin turnover

As the actions of newcomers are quite telling, it is worth examining them separately. The graph shows three time groups according to the period during which a transaction was last performed for active coins: from one week to one month, from one day to one week and to 24 hours (the shorter the interval, the darker the colour).

It is clearly visible that right before critical moments, activity intensifies: the coin circulation rate rises significantly. Much of this occurs as a result of mass purchases by newcomers desperate to jump into the last carriage of a departing train after a long period of increasing prices. We therefore conclude the following: when newcomers flood the market, an opportunity arises to take profit.

Furthermore, it is worth mentioning that over time, investors tend to hold BTC in their balance increasingly longer. This is indicated by the decrease in activity of these three short-term time groups. In this way, additional deflationary pressure is created, which helps support prices.

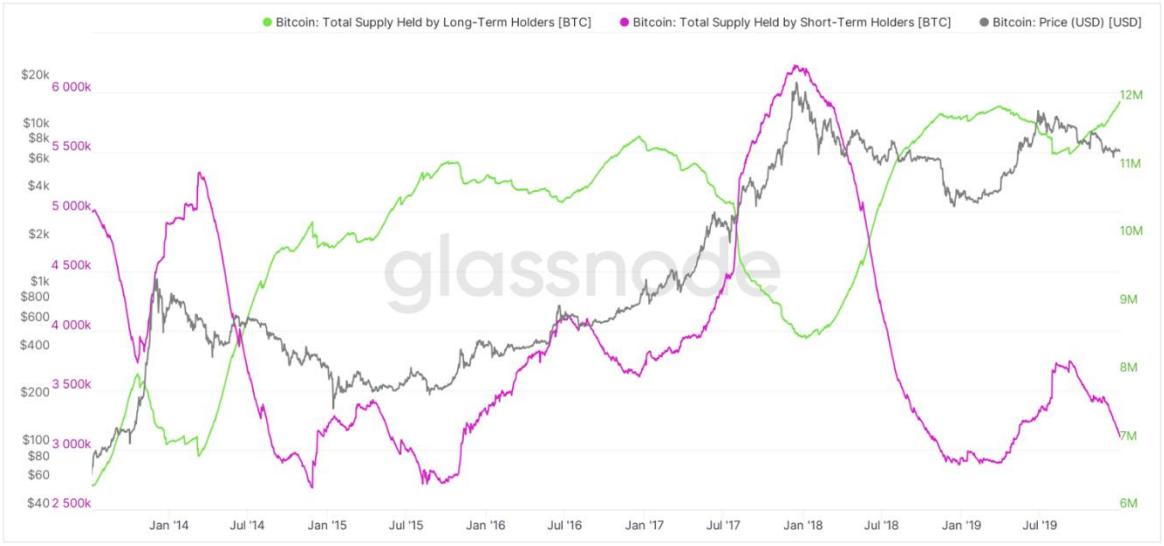


Long-term versus short-term investors

To understand the market, it helps to be familiar with the behaviour of investors who buy BTC for the long term and short-term traders who try to make money in as short a window as possible.

The graph below shows how long-term investors (green line) increase their positions during market crashes and gradually decrease them as prices rise by selling them off to speculators (purple line). Indeed, it is mostly due to this that the cryptocurrency market is highly predisposed to cycles.

We can see a serious imbalance. Before the whales began taking profit in January 2017, they had over 11.4 million BTC, whereas short-term investors had only 3.6 million BTC. An enormous number of newcomer buyers appeared at the end of the year, but long-term investors maintained their dominance even then. On December 16, when Bitcoin reached a price maximum, long-term investors had around 8.5 million BTC, and speculators had only 6.2 million. During the correction, the whales resumed coin purchases from panicked traders and recovered their supply.



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2021 presented a similar picture: the money of weak players flowed into the pockets of the strong. This also occurs in traditional markets, be it commodities or stocks. An important lesson can be drawn from this: one must not panic during crashes, but rather acquire assets that have fallen in price. In other words, follow the example provided by "whales". Predicting short-term price movements is extremely difficult. Far more effective would be to focus on the long game.

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Do not neglect the price graph trajectory in favour of outcomes

Bitcoin's movement is marked by its cyclic nature, constantly alternating between prominent bullish and bearish periods over its entire existence. For the most effective analysis, we must use the whole of our arsenal and not forget to consider the BTC/USD graph, which itself contains extremely critical information.

Logarithmic regression analysis likewise provides an idea of price highs. As is visible, the lows hit during the correction following a bullish cycle have never fallen below the previous cycle's highs. The red line along the middle highlights the strong price resistance that cannot be swiftly overcome. We can infer from the graph that the current cycle is still a way from ending and prices can still grow to $120 000 per BTC following the resumption of the rising trend.

This rising trend is further corroborated by an analysis of the graph using Elliott-wave principles, which state that price movements occur in five waves: three motive (1, 3, 5) and two correctional (2, 4), combined with Fibonacci levels. The ultimate target derived using this method coincides with the result of the logarithmic regression: approximately $120 000 per BTC.