

Twitter Thread by [Alex Krüger](#)



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1/ The #Bitcoin bear case has two two components:

The macro, and the miners.

THREAD ■

2/ On the macro side, if the dollar reverses its major downtrend and/or real rates turn positive, that will hurt \$BTC considerably.

I don't expect either to happen in 2021, but have to pay attention to these.

3/ On the miners side, one has to consider the miners' cycle.

It works like this ■

4/ Miners' hashrate (the aggregated bitcoin computing capacity) is directly tied to mining difficulty, which is the main variable in the bitcoin cost of production

=> the more capacity installed, the higher the difficulty, and the higher the cost.

5/ In a bull-run, miners' hashrate lags price, so as price takes off and moves higher, miners' profitability explodes (as price goes up but production costs don't as much).

These are the happy times.

6/ Higher profitability drives miners to increase capacity, and attracts new miners.

7/ Around major tops you will see people who don't understand bitcoin pull online calculators --which ignore other costs such as cooling, pool fees, warehousing, security, and personnel-- and imagine they are going to become wealthy mining bitcoin. Then go buy overpriced miners.

8/ It's important to understand that Bitcoin mining presents a perfect Prisoner's Dilemma.

Here's an old thread on that topic. Mind that the bitcoin produced a month is now 27,375, or about 900 a day. This quantity halved in May.

<https://t.co/PPPtXM6hOB>

1/ A thread on bitcoin mining game theory.

The Bitcoin network produces approximately 54,750 bitcoin a month in block rewards.

Every month. pic.twitter.com/l7Y6BEIamT

— Alex Kr\xfcger (@krugermacro) October 10, 2019

9/ Higher profitability drives increasing mining capacity, but this new capacity can take months to install.

That's why hashrate increases lag price increases.

10/ Currently, and due to chip shortages related to technological changes and covid supply chain disruptions, delays are in the order of 6-10 months.

11/ While miner profitability moons, miners are capable of hodling more: they can reduce sales to take advantage of rising prices in a bull market.

This adds to reflexivity and helps prices further up.

12/ Eventually hashrate catches up with price. Happy times end, and miners have to increase their selling volumes to pay the bills.

13/ There's another game theory component: if you are a miner and know that other miners will soon be forced to increase their selling volumes, you may want to sell before and front-run them to get better prices.

14/ This increase in selling can be augmented by prior hodling, resulting in a perfect storm.

Miners did hold inventories back late 2020, but their selling volumes have already increased in 2021, with price in the 30s-40s.

15/ Finally, consider that at current prices the dollar amount for new bitcoin produced is considerably larger than it was prior to the halving.

1800 bitcoin/day * \$10,000 = \$18,000,000/day

900 bitcoin/day * 35,000 = \$31,500,000/day

I remain bullish, but it's important to keep the bear case in mind. Miner flows make sure price can't move in straight up lines for too long, and are the reason one should not be too bullish later in the year. At some point miner excesses must be rinsed out.

For those asking where to find miner data, there are three main sources:

[@cryptoquant_com](#)

[@glassnode](#)

[@thetokenanalyst](#)

All require a subscription unfortunately.

I mostly use CryptoQuant: <https://t.co/AaOPJjxt7h>

Their founder [@ki_young_ju](#) shares very useful data on Twitter.