BLOCKWARE SOLUTIONS™

2023 Market Forecast - Revisit

Prepared by Blockware Intelligence

Key Predictions

Disclaimer: All of the statements below are strictly theoretical predictions. Although data-driven, these hypotheses should not be interpreted as investment advice. Own your own trade.

Macro

1. Year-over-year CPI value will come down throughout 2023, despite inflation remaining an issue.
2. Lingering inflation will likely result in the Fed holding rates elevated throughout 2023.
3. Lower housing prices and slightly higher unemployment.
4. Asset prices and M2 money supply bottom in 2023.

Bitcoin On-Chain

1. BTC will likely break the short term holder and long term holder realized price resistance levels.
2. We expect a continued decline in exchange balances as more users self-custody their BTC
3. Data suggests the number of on-chain entities will grow tremendously.

Mining, Energy, and Geopolitics

1. The S19XP is expected to retain its market value longer than its predecessors.
2. Bitcoin mining difficulty growth rate will likely slow in 2023.
3. The United States will prone to be the best jurisdiction for Bitcoin mining.

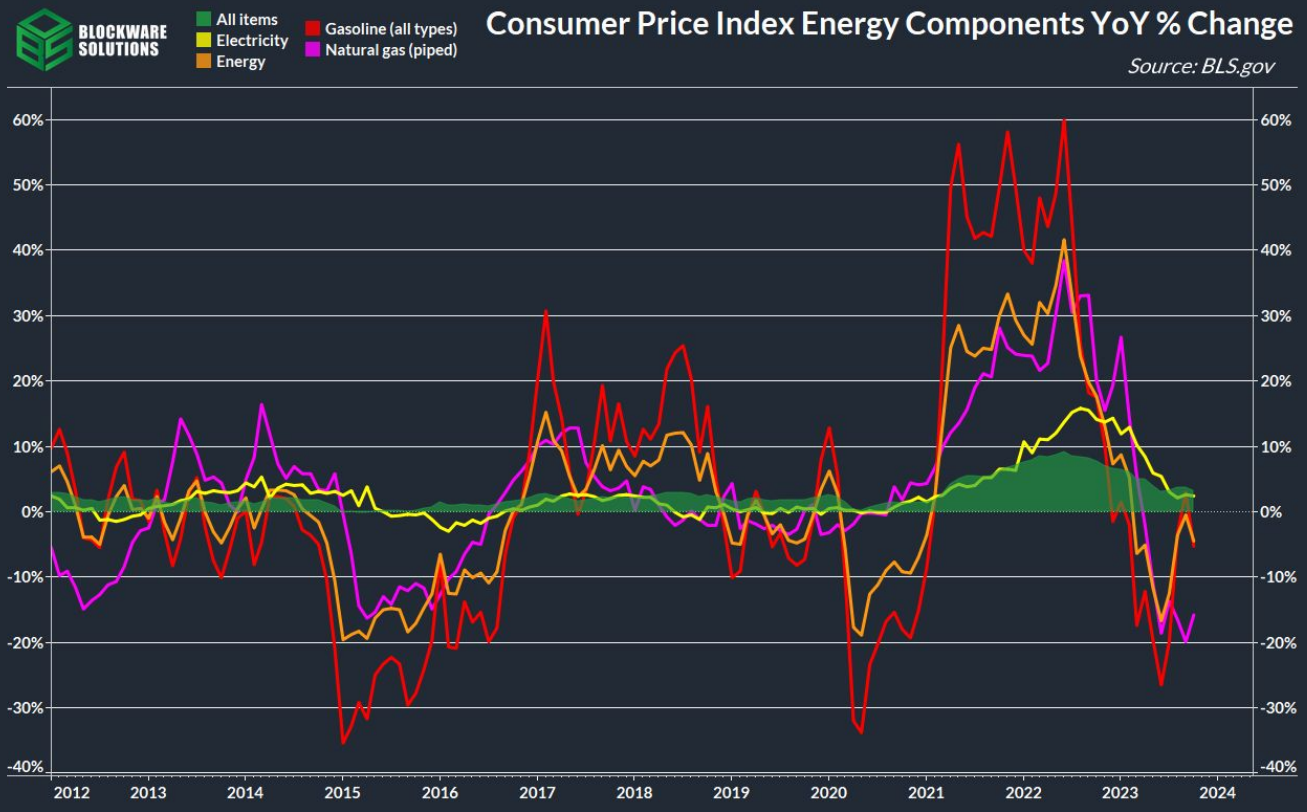
Prediction: Prices will likely remain elevated despite lower YoY CPI values

Result: True. CPI down from 9.1% to 3.2%

Of course, inflation has remained above its long-term average throughout 2023. As predicted, we saw declining year-over-year CPI values as high interest expense took its toll on the energy market and consumer. That's without mentioning that high month-over-month values in 2022 create an environment where YoY values should've declined, as they did.

We also made the important distinction that despite declining YoY CPI values, inflation would remain an issue and at the forefront of the monetary policy conversation throughout the year. Unlike the 2023 Fed pivot that many other analysts had predicted.

What we failed to foresee was the broad based net decline in energy pricing, which we thought would take more time to play out. This played a major role in the disinflation that defined 2023.



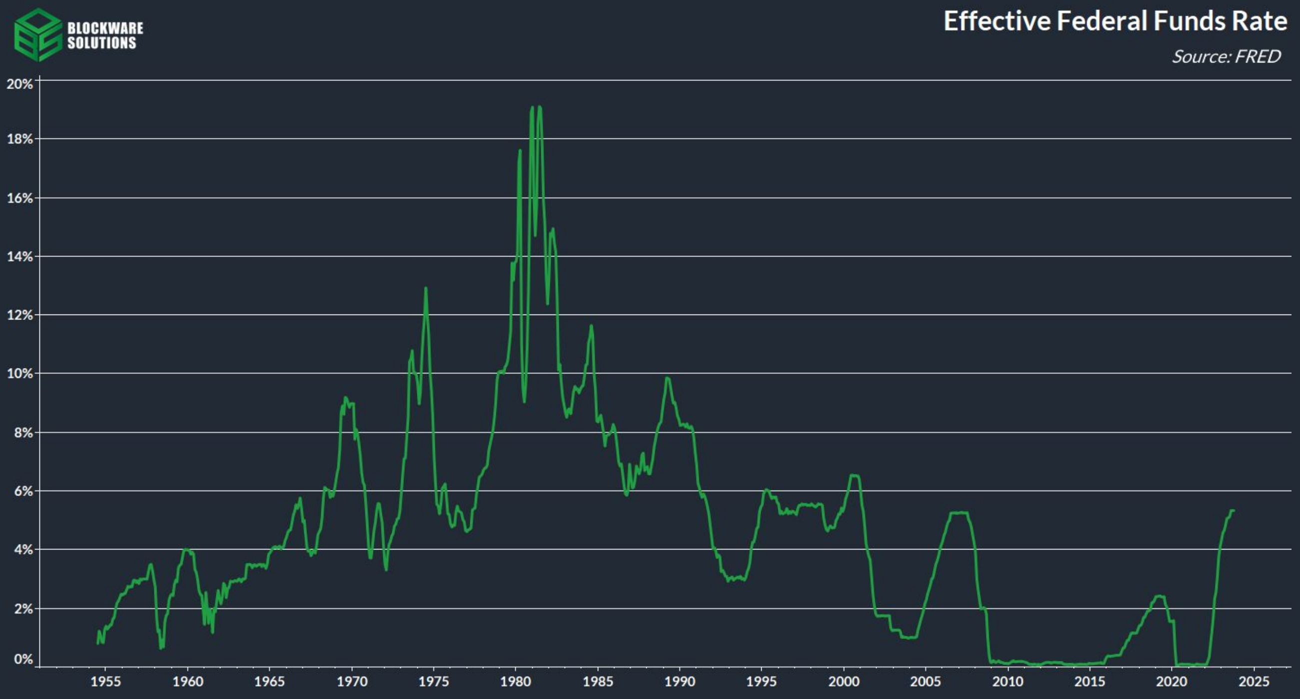
Sources: BLS

Prediction: Fed will remain contractionary so high rates force less borrowing

Result: True. Zero Fed rate cuts in 2023

Throughout 2023, the Fed remained contractionary in stance, as they allowed for higher interest rates to have their intended effect on the broader macro-economy. We predicted that lingering inflation would cause the Fed Funds Rate to peak at 5.25% in 2023, which is looking to be a hair short, with the FFR seemingly peaking here at 5.25-5.50%.

As previously mentioned, we did not foresee any cuts to the FFR in 2023, which is not the same approach we have to 2024. We did predict that the Fed would ultimately begin lowering the magnitude of their rate hikes, before leaving rates stagnant for a period of time. Treasury yields were accurate in their pricing in of a FFR >5.0% in the first-half of 2023, but hadn't priced in additional hikes until later in the year.



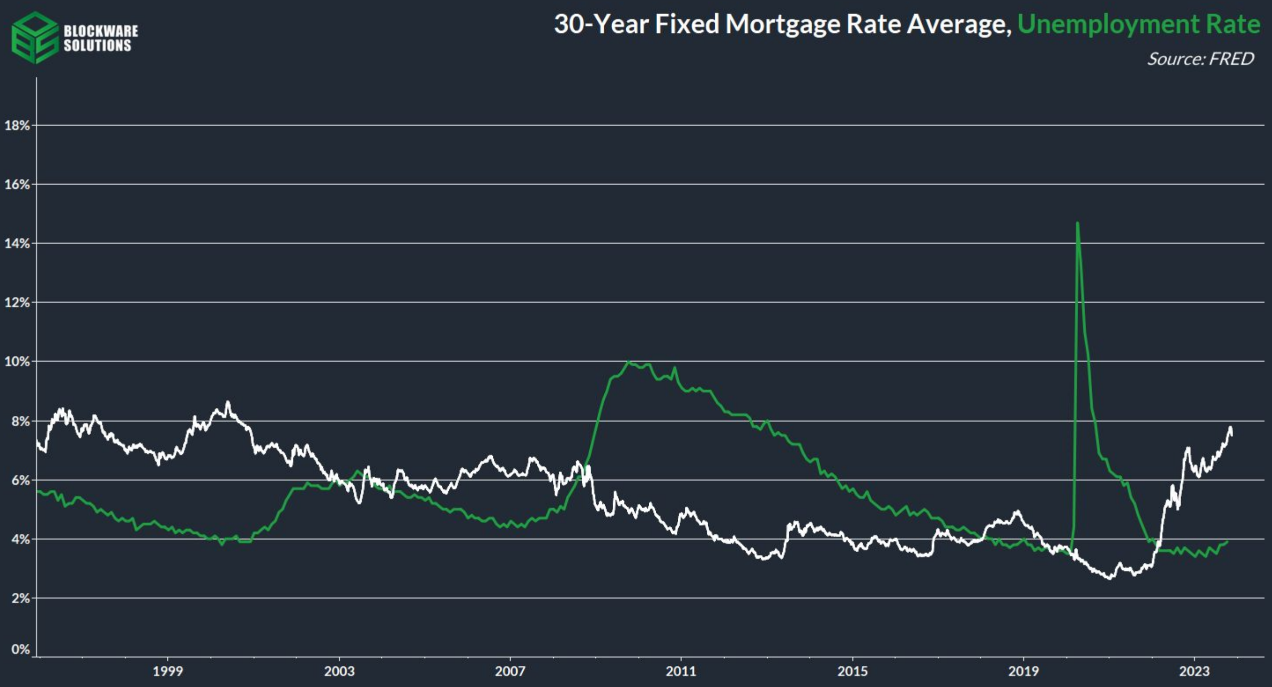
Sources: St. Louis Fed

Prediction: Lower housing prices and slightly higher unemployment

Result: 50/50. Housing prices rebounded, unemployment ticking up

We did, in fact, see housing prices come down to start 2023, however prices have since rebounded and the Case Shiller sits at all-time highs. What Blockware Intelligence failed to predict was the resounding strength of the American consumer. Despite mortgage rates breaching their highest national average in over 20 years, demand for mortgages has remained mostly positive.

We did see a marginal increase to unemployment in recent months. However, as we predicted, the increase to unemployment wasn't exceptionally high. This fall to employment is usually something that comes later in recessionary cycles.



Sources: TradingEconomics, MBA

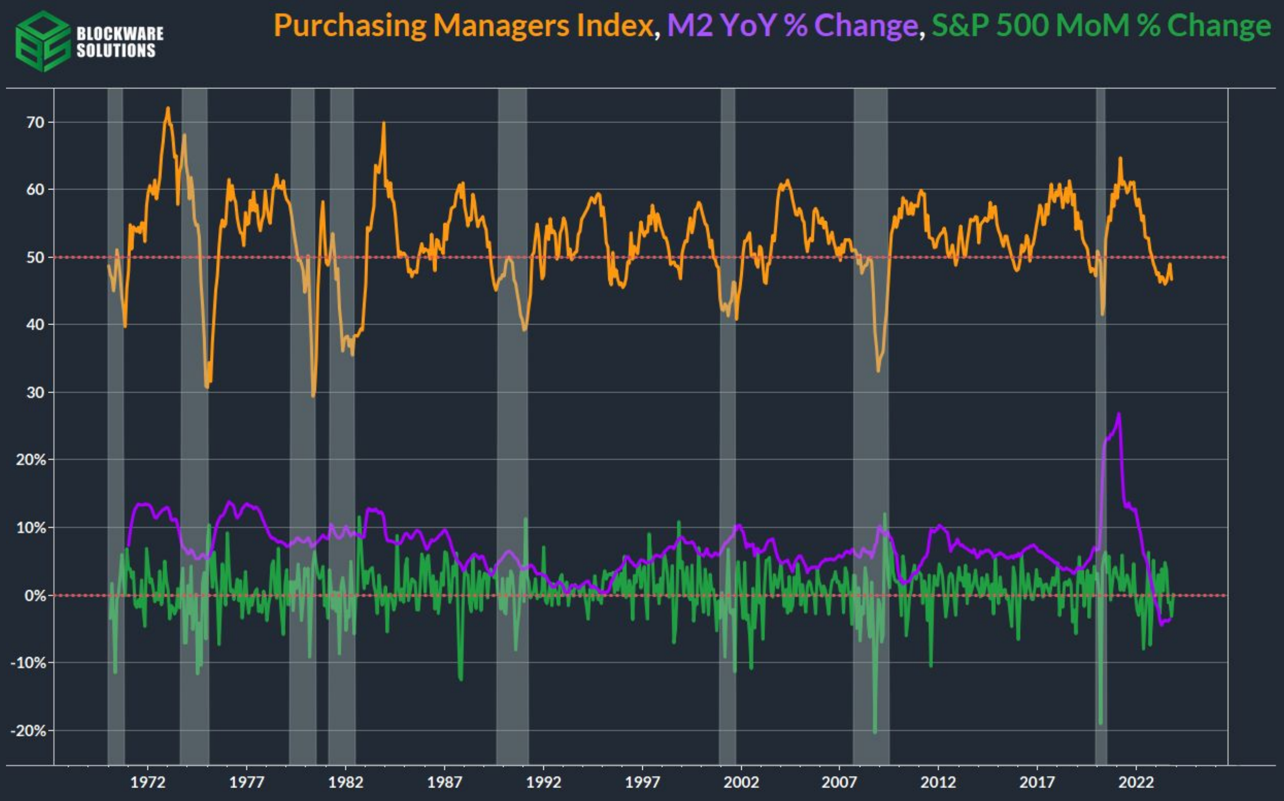
Prediction: Markets bottom in 2023 prior to a digestion period

Result: Partially true. Markets bottomed at end of 2022, M2 bottom is TBD

Our boldest prediction for 2023 was that markets would head higher, after putting in a new bottom in 2023. While whether or not the lows are in is up for debate, the stock market did not breach the lows it put in in December 2022.

This strong year of equity price action came at the behest of an outlook of rate cuts for 2024, and strong earnings growth in 2023. Despite the clear issues that the economy is facing, many businesses are still performing very well with a strong consumer base.

We did also get a bounce from M2 money supply, potential as a result of the Fed's BTFP program working to inject liquidity into a troubled banking sector. M2 has since begun to taper off again, and may be continuing to head lower for a period of time.



As you can see above, large drawdowns to the Purchasing Managers Index (PMI) below 50 tend to be an accurate recessionary indicator. While a PMI <50 is considered bearish, we tend to see recessions at readings near 40. Large dips to the PMI also tend to coincide with deeply negative MoM returns for the S&P 500, as shown above.

Sources: Nasdaq Data Link, St. Louis Fed

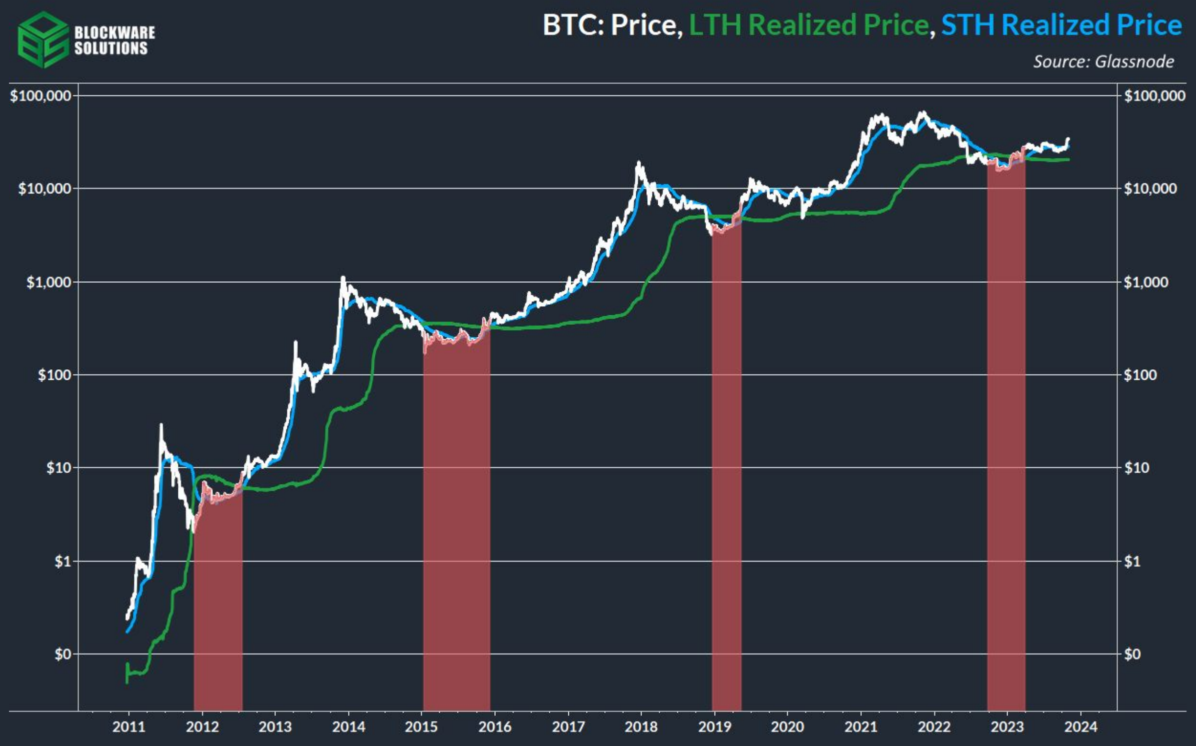
Prediction: Bitcoin price will flip realized price resistance levels

Result: True. BTC flipped LTH & STH Realized Price

This prediction manifested as true less than a month into the year, with the post-FTX drop to $16,000 being the cycle bottom.

BTC trading beneath long-term holder realized price has marked bottoms with impeccable accuracy, this time was no different.

Throughout the year BTC has teetered back and forth with short-term holder realized price, serving as both resistance and support. During the month of October this metric has confidently been flipped into support.



The Bitcoin price dropping beneath the cost-basis of long term holders once again signaled the market bottom with impeccable accuracy. When long-term holders are underwater, it's a good sign that bitcoin is cheap.

Sources: Glassnode

Prediction: Exchange balances will decline further as more users take custody

Result: True. Exchange balances down ~50,000 in 2023.

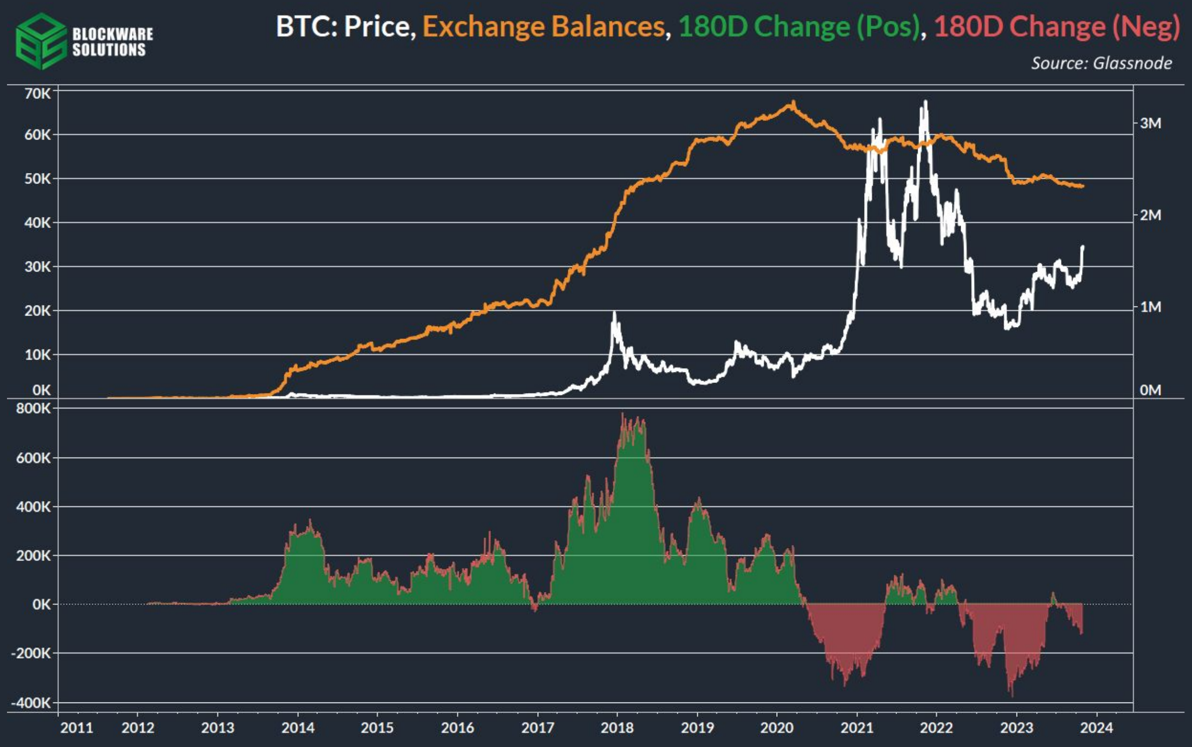
While exchange balances have declined year-to-date, and our prediction was directionally accurate, the magnitude of at which they declined fell short of our expectations.

Exchange balances started the year at 2,360,787 and are now down to ~2,311,622; a net decline of roughly 50,000 on the year.

However, the silver lining is that exchange balances have dropped by ~124,000 over the past six months.

This has been the first halving epoch in which exchange balances have declined from start to finish, which presents a strong argument against the idea that future bull market returns will be diminishing.

Bitcoin's absolute scarcity is being felt by the market for the very first time.



Exchange balances have plummeted since the start of the 2020 - 2024 halving epoch.

Sources: Glassnode

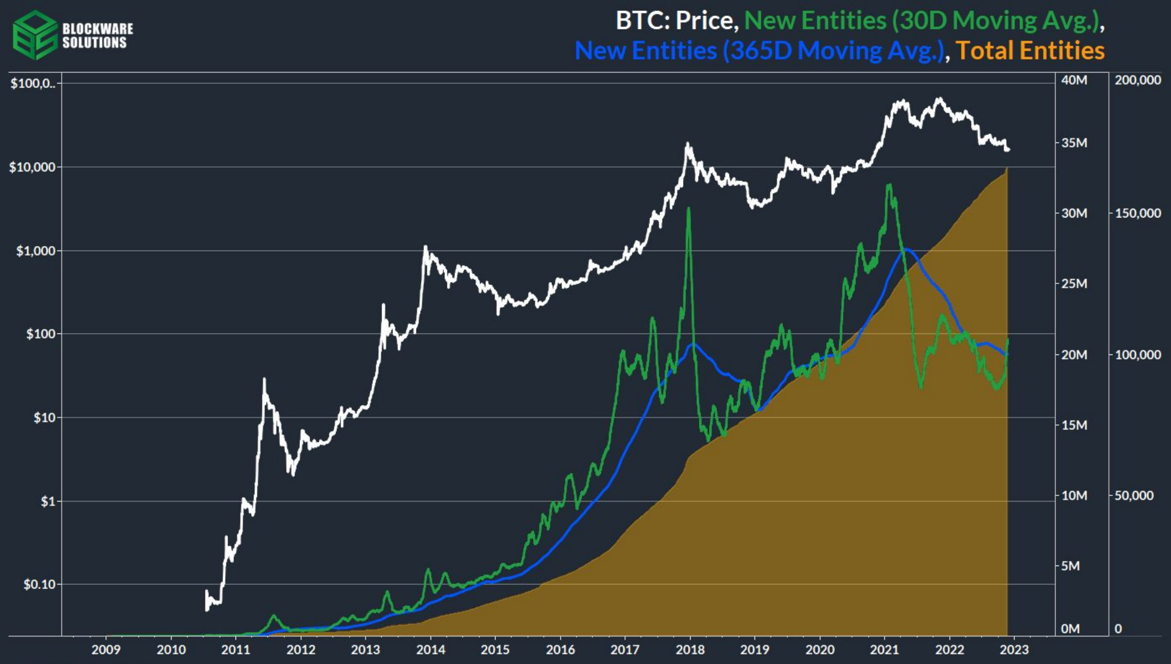
Prediction: The number of on-chain entities will increase significantly

Result: True. However, this metric is not an accurate representation of users

Our analysts' views on the signal (or lack thereof) provided by this metric has changed. “Entities” is simply looking at addresses but accounting known exchange addresses, addresses consolidating etc. This metric is not necessarily an accurate representation of “total users”, but it does provide signal on market behavior.

In 2023 we saw major spikes during the ordinal craze, eliminating any doubt about the future of a transaction-fee based economy for miners. If demand for wizard pictures is capable of driving fees as high as it did, then demand for Bitcoin as a means of final settlement from global financial institutions will give miners more than enough in TX fees to make up for the diminishing subsidy.

Moreover, you can see users consolidating UTXOs during periods of low fees. A drop in entities/addresses coincided exactly with the time at which 1 sat/vByte TXs began making it into blocks. Present day Bitcoiners seemingly understand the importance of UTXO management.



Source: Glassnode

We expect the number of on-chain entities to experience a material increase in 2023 as Bitcoin adoption nears the exponential growth stage of the ‘S-Curve.’

Sources: Glassnode

Prediction: The S19XP will retain its market value longer than its predecessors

Result: TBD but looking likely

While it may be too early to say this is correct, the trend of diminishing marginal efficiency gains between each generation of Bitcoin ASICs has continued.

Absent the jargon, this means that while each new generation ASIC is better than the previous one, the gains in energy efficiency (W/Th) are decreasing with each generation.

The S21 consumes 16% fewer jules per hash than the S19 XP, while the S19XP consumed 29% fewer jules per hash compared to the S19.

With S19s still alive and well almost 4 years after their release, especially amongst miners with access to dirt cheap power, the XP is poised to stay relevant, profitable, and valuable, for years to come.

ASIC	Release Date	J/Th	% Change Consumption
S9	May-2016	98	-
S17	Apr-2019	40	-60%
S19 Pro	Feb-2020	29.5	-27%
S19 XP	Jul-2022	21	-29%
S21	Q1-2024	17.5	-16%

While each new generation ASIC is better than the previous one, the improvement in energy efficiency (W/Th) is decreasing with each generation. The net effect is that modern day ASICs will likely have longer lifespans than their predecessors; maintaining profitability and resale value for years after their initial release.

Sources: Bitcoin Mining Council, Wafer World Incorporated

Prediction: Bitcoin mining difficulty growth rate will slow in 2023

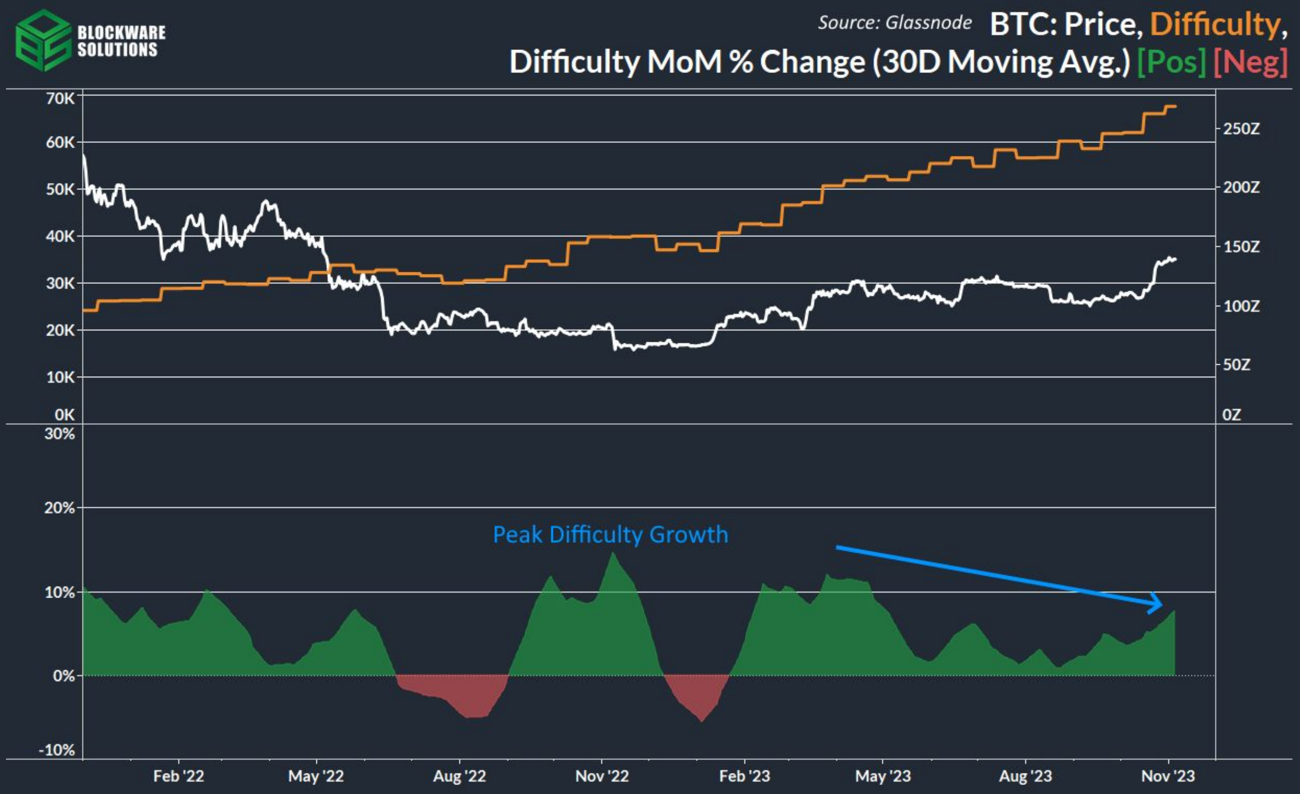
Result: True, although hashrate growth has been higher than expected

Bitcoin mining difficulty and total network hashrate are correlated 1:1. If hashrate doubles, then mining difficulty doubles. Since ASICs are commoditizing, it is becoming more and more difficult to increase the network hashrate by manufacturing a new advanced ASIC. Instead, hashrate and difficulty are growing due to increased consumption of cheap and wasted energy.

While difficulty grew in 2023, the rate at which it grew was down from the peak growth rate in 2022. The reason for the slow down in difficulty growth was trifold:

- ASIC Commoditization
- Lack of Mining Investment Made in 2022
- High global energy prices

The largest increases in difficulty came in the aftermath of increases in the price of Bitcoin as previously unprofitable miners were able to plug their machines back in.



Difficulty has continuously hit new all-time highs throughout the year. However, it has grown at a slower relative pace compared to the previous year. This slower growth rate will likely persist throughout the remainder of the halving epoch, less significant BTC price appreciation.

Sources: Cambridge, US Nuclear Regulatory Commission

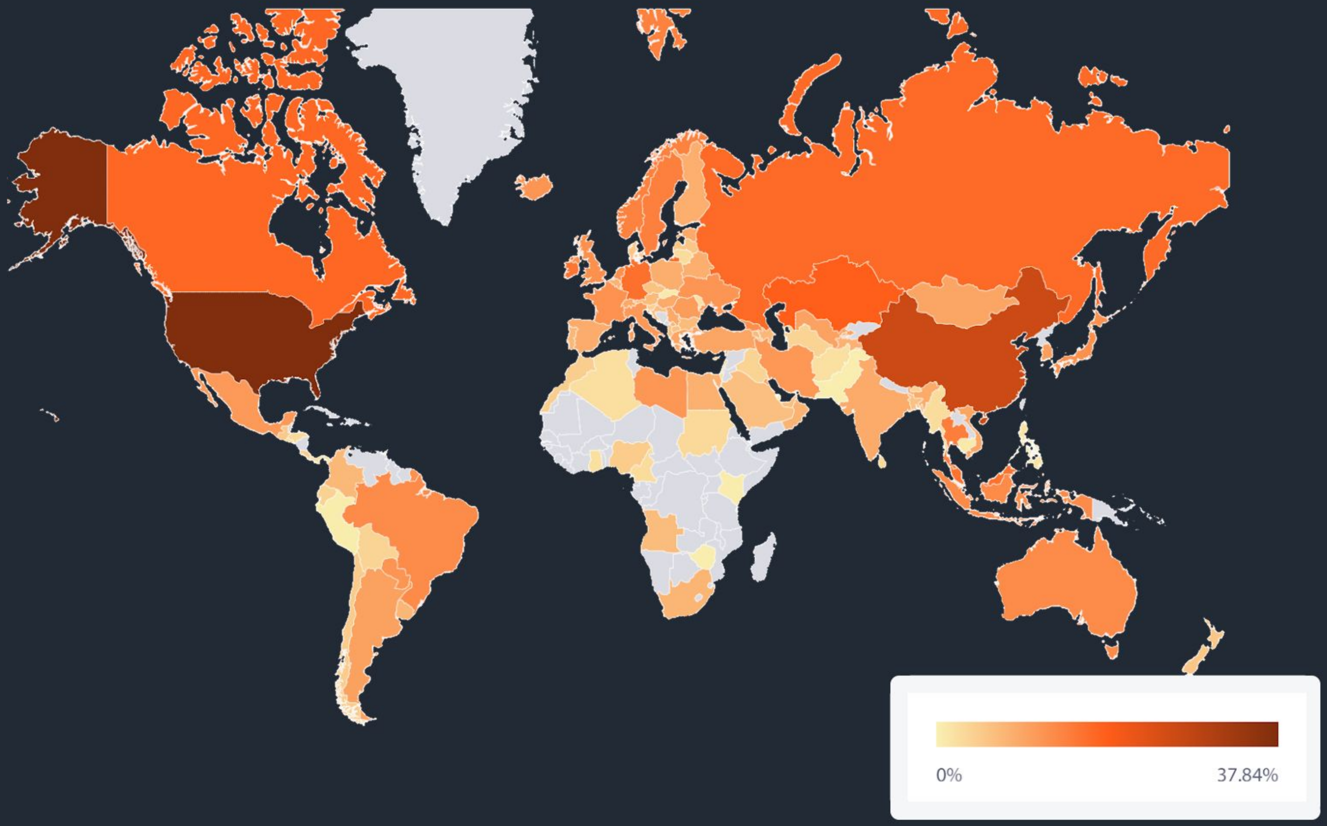
Prediction: The United States will be the best jurisdiction for Bitcoin mining

Result: True

Despite hostility from vocal, uneducated legislators such as Elizabeth Warren, The United States has continued to make itself the global hotbed of Bitcoin Mining, with a litany of states passing mining-friendly legislation.

Thanks to the efforts of groups such as Satoshi Action Fund, “right to mine” bills were passed in the states of Arkansas and Montana.

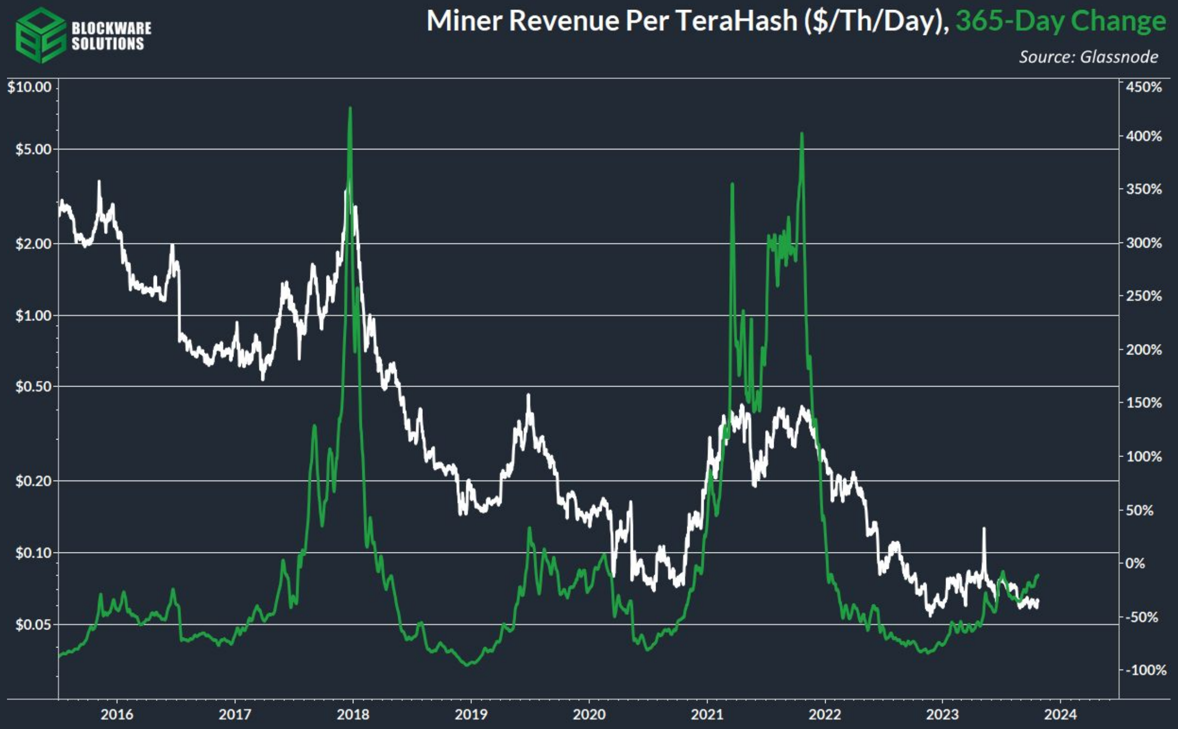
Publicly traded mining companies have continued to expand their operations within the United States, and more people have been awakened to the unique value proposition of Bitcoin miners as grid balancers.



The United States will likely continue to see an increase in the total share of network hashrate. Individual states are welcoming large-scale mining operations with open arms, despite attempts by Federal Legislatures to disincentivize Bitcoin mining.

Sources: Cambridge, eia.gov

The Time to Mine Bitcoin is Now



Despite the continual rise in mining difficulty, hashprice is essentially flat on a year-over-year basis. With numerous BTC price catalysts on the horizon: increased demand from a spot ETF, record levels of supply illiquidity, etc., we are poised for a massive bull market. Incumbent miners will profit the most when that bull market arrives.

New Generation Mining Rigs

There are two major trends that have fundamentally altered the market dynamics of the Bitcoin mining industry. First, Bitcoin ASIC efficiency improvements for new generation machines are slowing drastically. This means the next-gen hardware does not immediately make the previous-gen hardware obsolete, allowing today's hardware to retain its value for a longer period of time.

Second, Bitcoin's network hashrate and the number of rigs hashing continue to grow over time which has forced a large secondary rig trading market to emerge. This means there is now more liquidity for used mining rigs, enabling mining rigs to be purchased and sold at a later date.

ASICs are Assets

ASICs are commoditizing, which means today's hardware is likely to retain its value for a longer period of time.

Rig Marketplace

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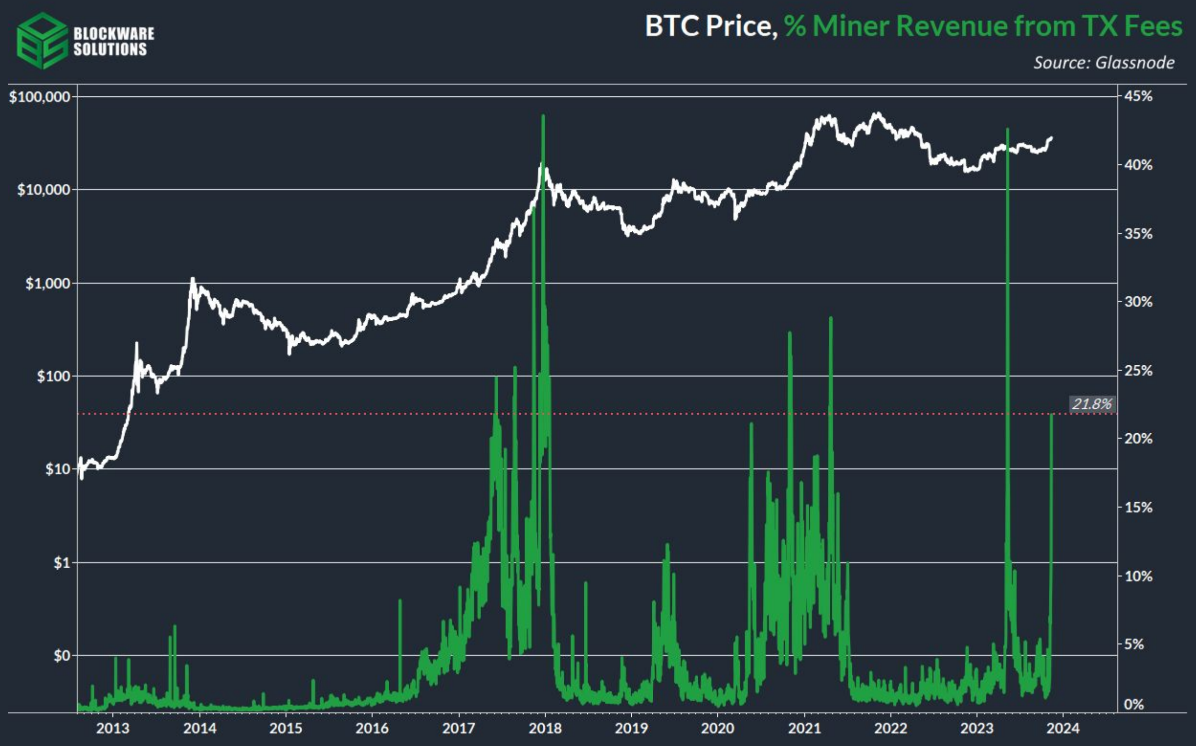

The surge in transaction fees during the ordinal-craze has provided a glimpse of the significant boost that transaction fees are capable of providing to Bitcoin miners.

New Generation Mining Rigs

Transaction fees are the dark horse of Bitcoin mining economics during the coming cycle. The ordinal craze showed what a mild increase in demand for on-chain settlement can do to the TX fee market; miners were earning more in fees than they were from the 6.25 block subsidy.

It is generally understood that the next bull market will be driven by institutions. If a handful of retail investors minting jpegs onto the chain is capable of sending TX fees as high as they did, now imagine how high fees will be when large capital allocators begin using the Bitcoin network for means of transaction settlement.

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