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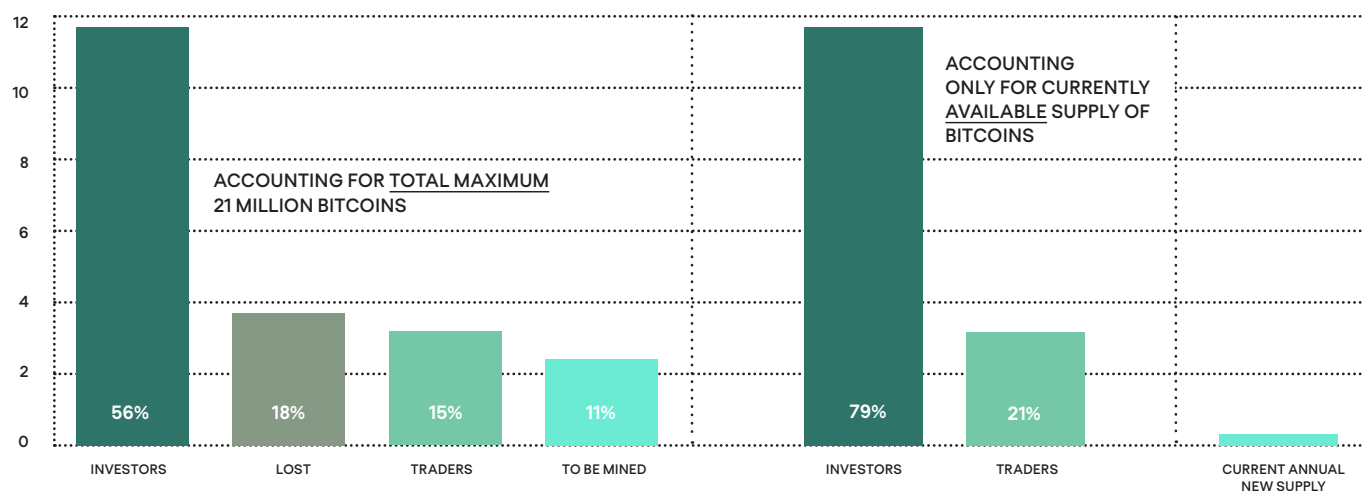
US Takeover: Bitcoin's Available Supply Shifts to Long-Term Investors



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1: Bitcoin's Supply Distribution Entering 2021 - 21 million Bitcoins Total versus Available Supply (mn btc)

SOURCE: CHAINALYSIS



Long-term investors now hold nearly eight out of ten of the estimated available Bitcoins. Such massive demand (and less speculation) is very likely the good reason that Bitcoin outperformed all assets in 2020, returning its investors north of 600%. And this was before the cryptocurrency hit its all-time high after an announcement from Tesla which added \$1.5bn of Bitcoin to their coffers. Unless you haven't been following recent events, this is not news.

What is actually impressive is the very fact that the price rally doesn't come from a group of very vocal Bitcoin believers or celebrité. And while the alarm bells on monetary expansion policies continue to ring loudly in grand-style, this alone is also not cause for Bitcoin's rapid appreciation. The price rally was on actual fundamentals of supply and demand.

Though it has taken over 10-years for the cryptocurrency community to prove one of Bitcoin's key points, the value in real scarcity is now taking shape. What can finally be seen is that market supply pressures have been driven primarily by North American institutions. And with blockchain analytics, a benefit only a digital asset such as Bitcoin can provide, this report will set any doubtful mind at ease, revealing the fundamental data driving Bitcoin demand supporting its price long before Tesla's announcement. Tesla's reveal only further supports the economics that led to Bitcoin doubling its previous peak.

A quick brief on the price movements on Bitcoin: kicking off 2020 at just over \$7,000, even a global pandemic couldn't suppress prices for too long. After markets (every financial market that is) crashed in March 2020, Bitcoin recovered from a low of \$4,000, skyrocketing well past its previous all-time high of \$17,000 and reaching just shy of \$30,000 on New Year's Eve.

The rally continued well past \$40,000 at the start of 2021 reaching near \$48,000 on Tesla's announcement. But the cryptocurrency was already testing the \$40k floor before the recent news.

21 Million Bitcoins? Think Again

Data shows that new investors pushed prices much higher in the last six months of 2020 to acquire north of 2mn Bitcoins. In order to be able to buy Bitcoin in such deep quantities, the price rallied well above the \$20,000 mark that helped persuade early investors to sell their cryptocurrency above its previous all-time high.

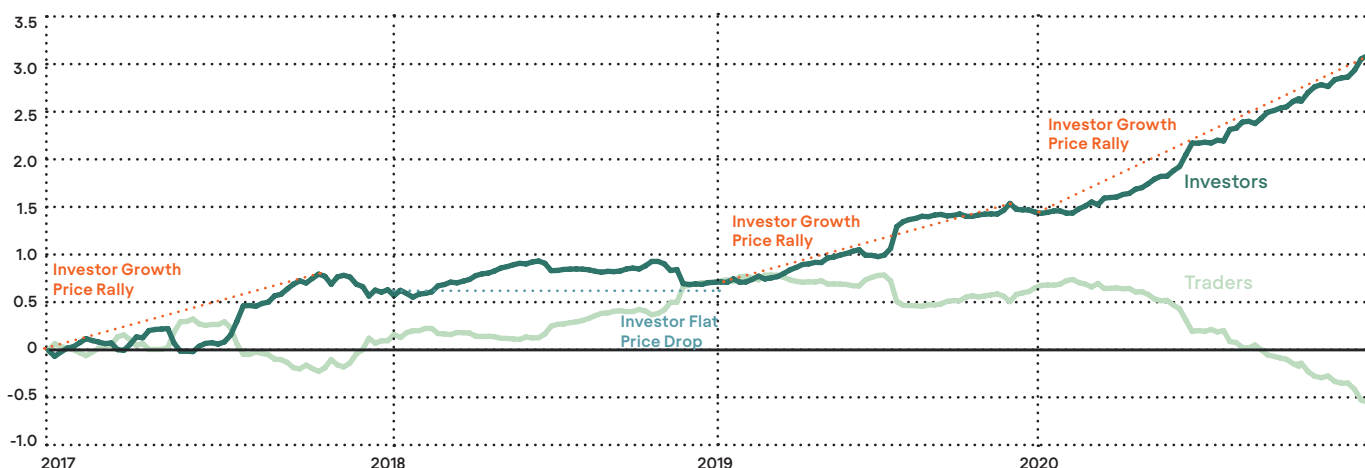
Hype wasn't part of the equation in this rally. Fundamentals spoke volumes. Blockchain analytics firm Chainalysis shared data with Copper and found that long-term investors have stripped the market from most of the available supply.

In fact, if one removes the Bitcoin that is estimated to be lost forever and the remainder that is to be mined well into the next 120 years or so, long-term investors now hold a whopping 79% of the cryptocurrency that's available (see chart 1).



2: Change in Bitcoin Held by Either Investors or Traders Since 2017 (mn btc)

SOURCE: CHAINALYSIS



With 11.7mn Bitcoins held by long-term investors, markets are now reliant on just 3.2mn available on exchanges and carried predominantly by traders. Since 2017, investors have siphoned off into custody almost the same amount that's now available to purchase on exchanges (see chart 2).

Such growth wasn't the result of mere luck and trust in Bitcoin's price recovery. This was the result of a market that's evolved to address previous infrastructure and regulatory hiccups at a rapid pace. And there was plenty to handle since its 20k high in late 2017.

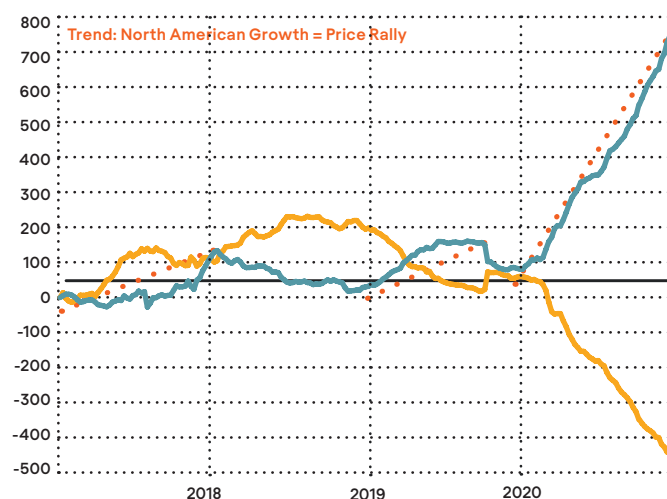
To begin, one key issue was government oversight. But regulators' fears have been focused on money-laundering concerns. A problem that, in reality, is relatively small, with less than \$2bn in transaction value being related to illicit activity on darknet markets last year. In effect, a moot point when looking at global illicit flows that the IMF estimates to range between \$1.6-5 trillion.

Exchanges have come to accept that Know-Your-Client procedures are a de facto part of running a money service business.

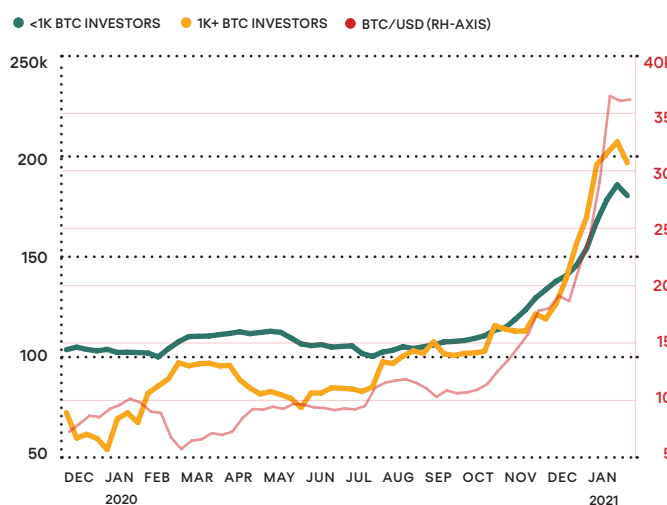
Compliance measures in institutions are now accommodating for the exposure to the asset class with custody solutions in place that many regulators require. Market depth has developed exceedingly well from OTC desks, derivative markets listed in the United States, and Exchange Traded Products in Europe (see p4).

In few words, buying Bitcoin is now a simple task with the safeguards in place for every institution looking for a small piece of exposure to compliment their gold store-of-value allocation with a digital alternative. The market is now different.

3: Cumulative Net Inflow of Bitcoin from East Asia to North America



4: 3-Month Old Investor Wallets Holding +1k BTC Increased Their Holding by 173% in 2020





Trend Setters

While Bitcoin is a global asset that has attracted walks of life from every corner, it is mainly the North American investors who have cornered the market supply in the past year, according to Chainalysis (see chart 3).

In fact, the data highlights just how strong demand was coming out of North America for Asian supplies of Bitcoin and the driver that pushed prices higher. The relationship isn't only apparent in the changing of geography but is the main driver for the price rallies that can be seen in 2017, 2019, and 2020.

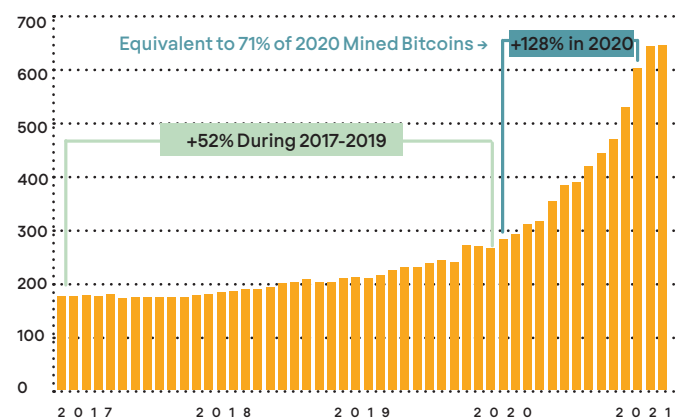
Most importantly, the data points to the fact that the investors in last year's rally were by and large new North American institutional investors (see chart 4). 40% of investors can be categorized as new as they've been holding Bitcoin for less than three months. This specific group can be seen proliferating since October 2020, when prices began to rally past previous highs.

However, the price jump was not caused by a sudden bump in investor preferences for Bitcoin over other assets alone. The price increase is a result of a demand and liquidity crunch marriage that happened early in 2020 when outflows from exchanges - that is, Bitcoins being moved into self-custody - increased significantly.

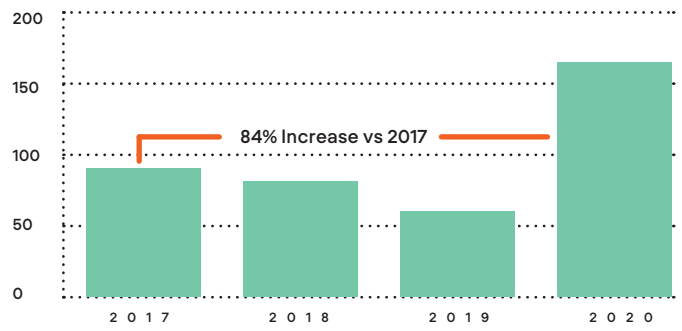
Nearly doubling in 2020 versus 2017, Bitcoin transfers going out of exchanges that were valued at the time at over \$1mn each increased just after markets began crashing in March and well into mid-2020 as the price recovered (see chart 5).

As the price recovered, the cryptocurrency gained more traction as money began flowing into financial markets. Early January saw the second wave of large buys, also propelling Bitcoin's price to an all-time high.

6: Grayscale Bitcoin Investment Trust AUM ('000 btc)



5: Bitcoin Exchange Outflows via \$1M+ Transfers (mn)



Significant/Known Bitcoin Treasuries

Company	Type	Country	Bitcoins
Grayscale Bitcoin Trust	Exchange Product	US	616,558
Block.one	Private Company	US	140,000
MicroStrategy inc.	Publicly Traded	US	71,079
Bitwise 10 Crypto Index Fund	Exchange Product	US	11,430
Stone Ridge Holdings Group	Private Company	US	10,889
Grayscale Digital Large Cap Fund	Exchange Product	US	7,036
Marathon Patent Group	Publicly Traded	US	4,813
Square inc.	Publicly Traded	US	4,709
Riot Blockchain, Inc.	Publicly Traded	US	1,175
Coin Citadel Inc	Publicly Traded	US	513
Argo Blockchain PLC	Publicly Traded	US	209
FRMO Corp.	Publicly Traded	US	63
3iQ The Bitcoin Fund	Exchange Product	CA	22,590
Galaxy Digital Holdings	Publicly Traded	CA	16,402
Ninepoint Bitcoin Trust	Exchange Product	CA	5,478
CI Galaxy Bitcoin Fund	Exchange Product	CA	3,306
Hut 8 Mining Corp	Publicly Traded	CA	2,851
Voyager Digital LTD	Publicly Traded	CA	1,239
BIGG Digital Assets Inc.	Publicly Traded	CA	239
Cyberpunk Holdings Inc.	Publicly Traded	CA	235
Hive Blockchain	Publicly Traded	CA	211
Fortress Blockchain	Publicly Traded	CA	163
Neptune Digital Assets Corp.	Publicly Traded	CA	75
DigitalX	Publicly Traded	AU	215
Mode Global Holdings	Publicly Traded	UK	85
Ruffer Investment Company Ltd	Exchange Product	UK	45,000
MTGOX K.K.	Private Company	JP	141,686
CoinShares / XBT Provider	Exchange Product	EU	69,730
Advanced Bitcoin Technologies	Publicly Traded	DE	254
ETC Group Bitcoin ETP	Exchange Product	DE	12,840
Bitcoin Group SE	Exchange Product	DE	3,229
The Tezos Foundation	Private Company	CH	24,808
21Shares AG	Exchange Product	CH	5,970
WisdomTree Bitcoin	Exchange Product	CH	5,700
Leonteq Bitcoin Tracker USD	Exchange Product	CH	2,174
Total			1,232,954
- of which USA		70%	868,474
- of which USA & Canada		75%	921,263

SOURCE: BITCOINTREASURIES.ORG AS OF 5 FEB 2021



In With The New

Grayscale, the largest sponsor of the Bitcoin Investment Trust, traded on OTC Markets, has made a good name for itself with strong marketing campaigns in its effort to displace gold. By every indicator - they've succeeded. The company is now in custody of over 5% of all available Bitcoins. Demand for their exchange-traded product grew immensely despite a considerable premium for the service.

And while Grayscale is by and far the largest in terms of total Bitcoin holdings for institutional investors, there are plentiful other companies taking on the cryptocurrency risk also (see table). Bitcoin treasuries that have been disclosed by public entities are known to be a little north of 1.2mn. And a whopping 75% of those are US or Canada based operations supporting further the data showing North American demand.

China, US Financial Peace

While the global financial system continues to grapple with currency manipulation wars and trade sanctions, US demand for predominantly Chinese mined Bitcoin is almost poetic.

A little over 450,000 Bitcoins were mined last year. This is indeed a 50% drop in total annual new supply versus the previous year as the miner's block reward was halved in May 2020.

However, miners supported the supply crunch considerably well, sending over 527,000 Bitcoins to exchanges (see chart 7).

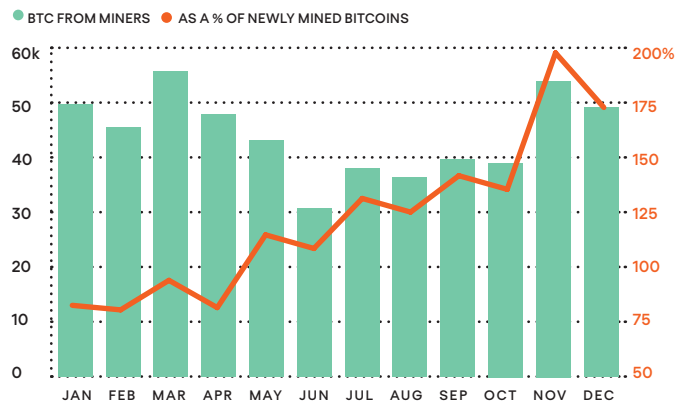
In comparison to the block reward, miners sent nearly double the amount of Bitcoin they earned in November. Since the block reward was cut in half in May, bitcoin miners resorted to selling their stash. Thanks to Bitcoin miners, an additional 100,000 Bitcoins above and over what they earned from May till the end of the year found their way to exchanges.

While miners supporting markets was certainly not altruistic given the high price they were able to sell at, miners continue to head into an extremely competitive marketplace.

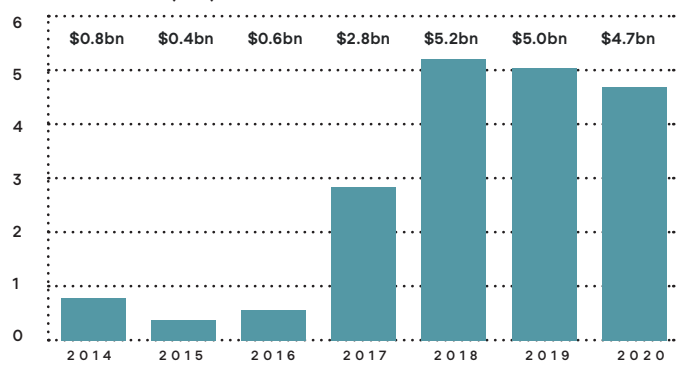
Even though Bitcoin returned to a new all-time-high, miners still earned less than they did from the previous two years (see chart 8). And investment in gaining any reasonable share of the hashpower has become an extremely expensive CAPEX (table p6).

The mining hashrate - the amount of computing power the Bitcoin network runs on - has grown by over 1100% from the end of 2017 till today. The reasons are plentiful, from new mining farms to much more robust and efficient mining equipment.

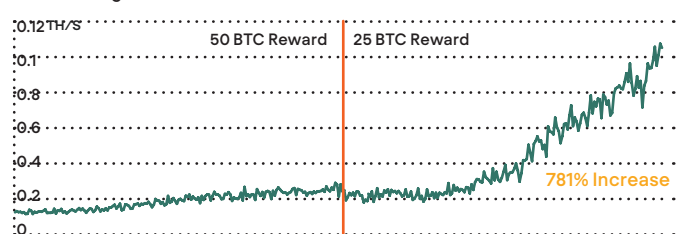
7: Bitcoin Moved from Mining Pools to Exchanges in 2020



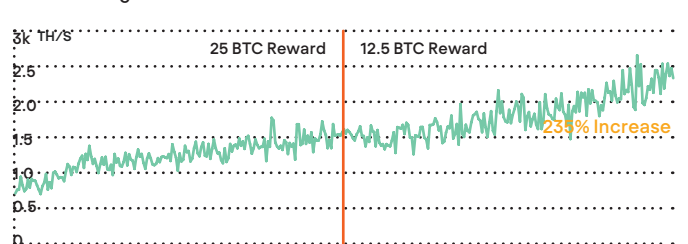
8: Miner Revenue (\$bn)



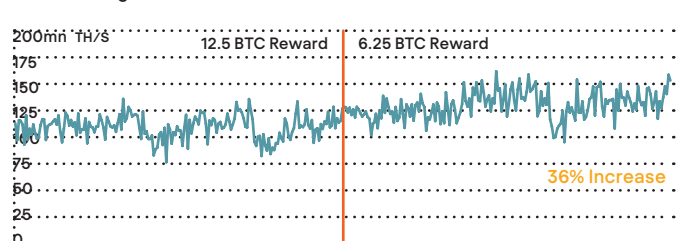
1st Halvening Period Hash Power Growth between June 2012 to June 2013



2nd Halvening Period Hash Power Growth in 2016



3rd Halvening Period Hash Power Growth in 2020

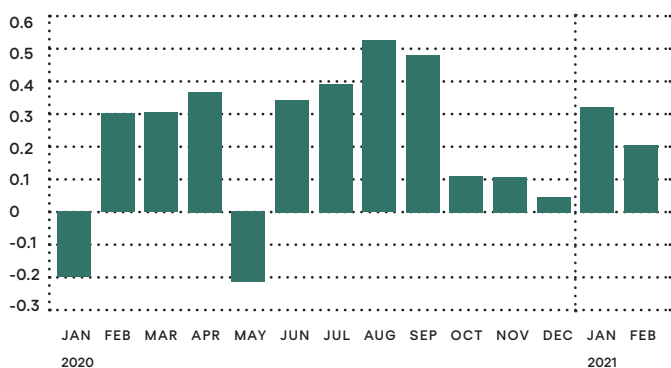




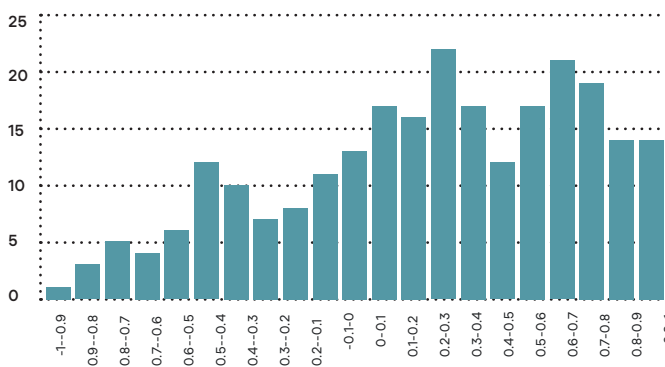
Mining Market Share: Capital Expenditure on Mining Equipment

Period	Date	Hashrate	Miner	Hashrate (TH/s)	Cost at release	CAPEX For 1% Hashpower
1st Halvening	2012 Nov 28	29	Avalon ASIC	0.06	\$1,300	\$6,283
2nd Halvening	2016 Jul 09	1,654,866	Antminer S9	14	\$2,100	\$2,482,299
3rd Halvening	2020 May 11	125,690,169	Antminer S17+	67	\$1,567	\$29,396,491
Current	Feb Avg.	155,478,531	Antminer S19 Pro	110	\$1,897	\$26,812,979
Antminer S19 Pro Shortages Have Led Bitmain to Double Prices. Sold Out. Ebay Going Price at \$10k.					\$3,769	\$53,272,598

12: Daily NYSE Open-Close Correlations for SP500 and Bitcoin



13: 2020 5-Day Rolling Correlation Distribution Count



But a supply shortage in the latest flagship models has made gaining any sort of reasonable share of the hashpower very costly, if not impossible. As of today, attempting to acquire only 1% of the network's hashpower would set farms back north of \$50mn. And even when mining equipment comes back to normal production levels, it would still be north of \$25mn. But there is a silver lining to the exorbitant costs: investment security for all parties.

Chinese miners are now extremely unlikely to tamper with the blockchain, seeing as they have to sink massive amounts of funds to secure a significant share of the Bitcoin network in order to have a higher chance at earning the block reward.

In essence, US demand that meets Chinese supply from producing Bitcoin has become a financially symbiotic relationship in which all participants will want to see security - those who are investing in the asset and those who are investing in producing the asset.

US Markets Lead the Way

Despite Chinese miners being an essential part of the supply chain, it is US buyers who are dictating the terms. As highlighted by Copper in research written in early 2020, institutions were already responsible for the majority of trading.

Nearly a third of all Bitcoin trading volumes happen during US Stock Exchange market hours. In 2020, US stock markets only traded for 18% of the hours in the year. Weekends and holidays, for example, double the amount of time versus market hours, saw less

trading volume.

And this helps explain why Bitcoin has become much more positively correlated to the S&P500 than in previous years. Though month-on-month correlation statistics can be erratic, a more precise picture can be seen of the effects of short-term traders (see charts 12 & 13). 68% of 2020 saw a positive correlation to US markets. 10% of the time, Bitcoin was nearly 100% correlated to US markets.

Hurrah! 2.1E+15 Sats*
* 2,100,000,000,000,000 sats = 21 Million BTC

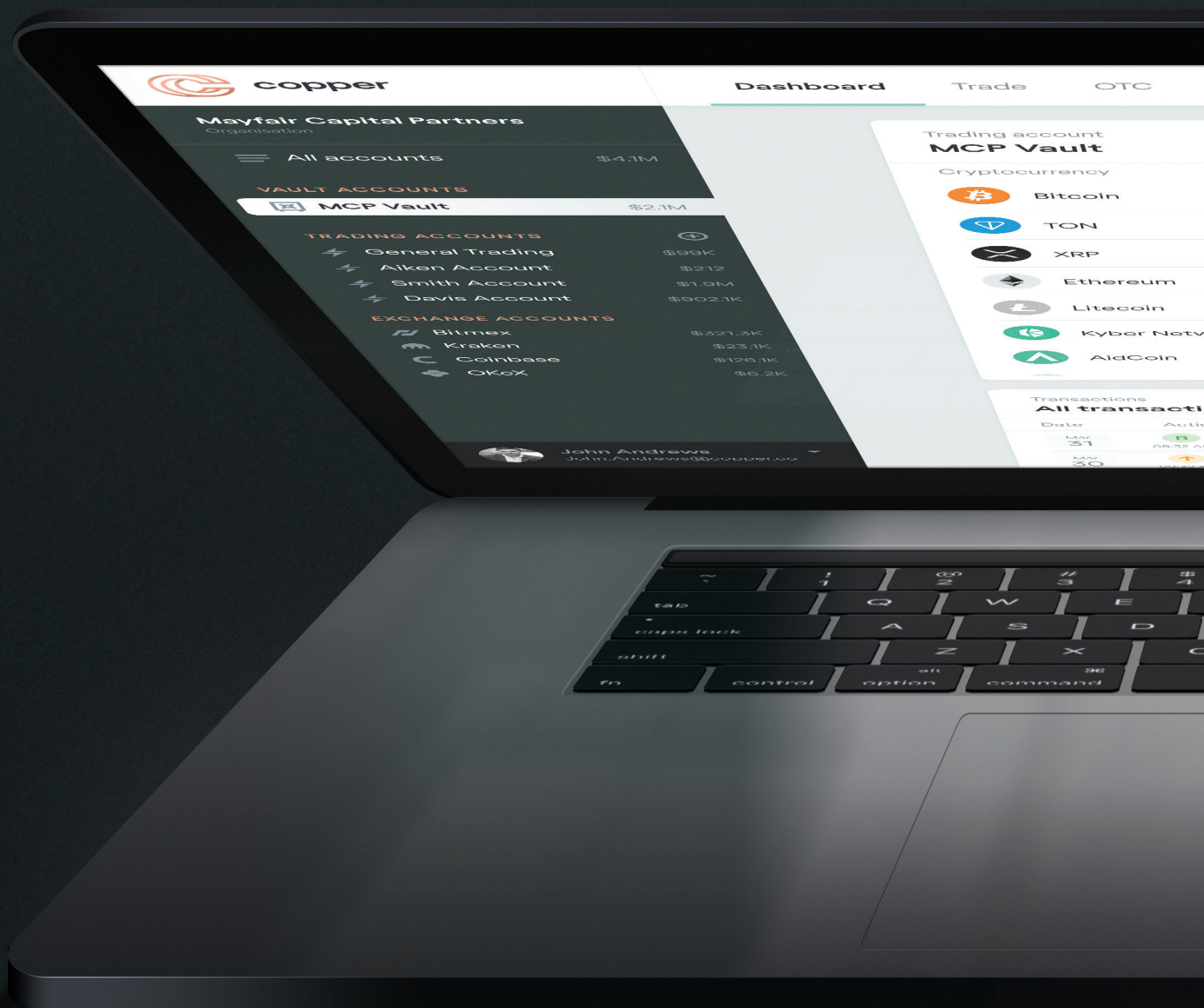
The discussion around Bitcoin continues to adapt to realities rather than preconceived notions. Fears of the cryptocurrency being used for criminal activity, or network security, price manipulation, storage safety, regulator bans, among other issues, have all been addressed and answered. Cryptocurrency markets have matured beyond any reasonable doubt.

And though Bitcoin is a global brand, owning one is becoming a much more challenging investment.

With Bitcoin prices over 20 times an ounce of gold, language is likely to shift. Smaller investors will have to start measuring their investments in Satoshis (sats), a fraction of a Bitcoin. Will "stacking sats," a highly praised crypto motto, be another reality that Bitcoiners were right about?

Whether this will soften the perceived supply limit or exacerbate the race to owning a full Bitcoin is one that will be seen. But what is certain is that the supply of full Bitcoins is running very thin.

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