

BITCOIN IN INSTITUTIONAL PORTFOLIOS



Ian Hawkins is the Managing Director of xoquant llc. xoquant provides modeling and risk advisory services for investment and trading firms.

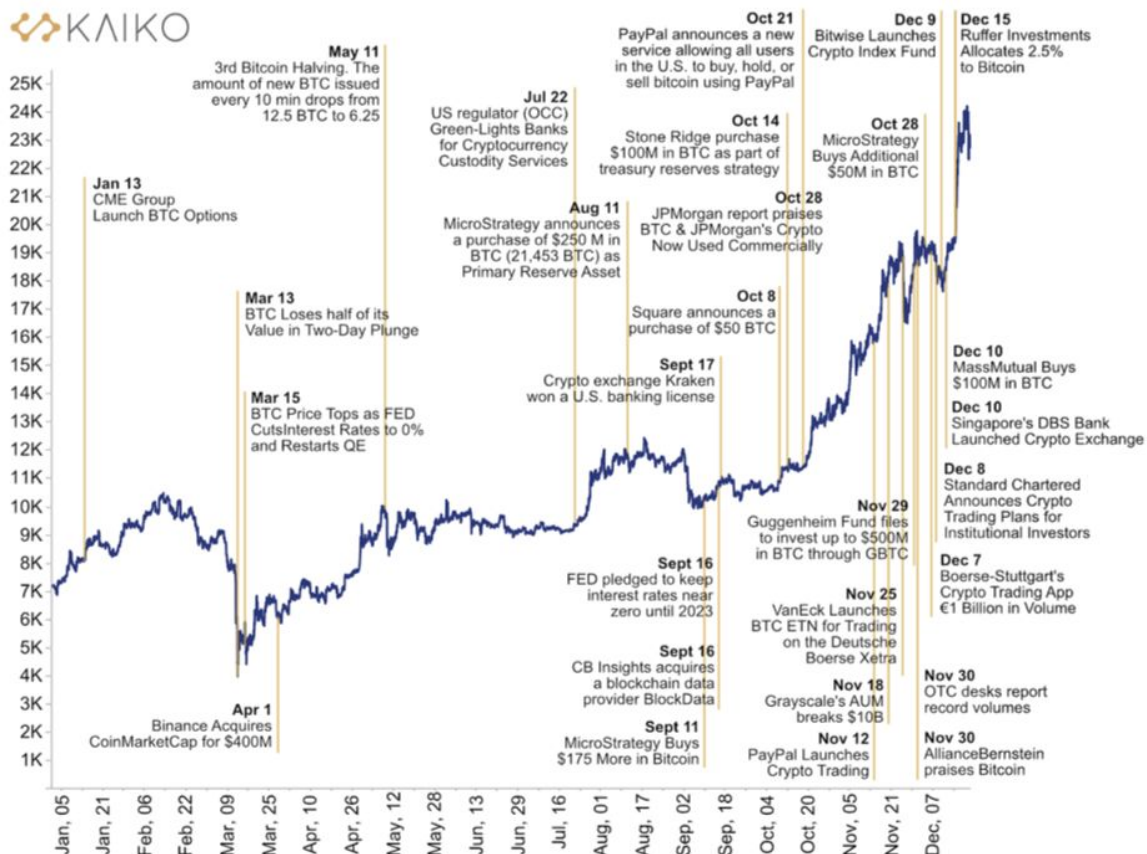
[Ian Hawkins - Managing Director - xoquant llc](#)



Mas Nakachi is a fintech executive currently working on numerous projects in the digital asset, blockchain, and consumer finance spaces.

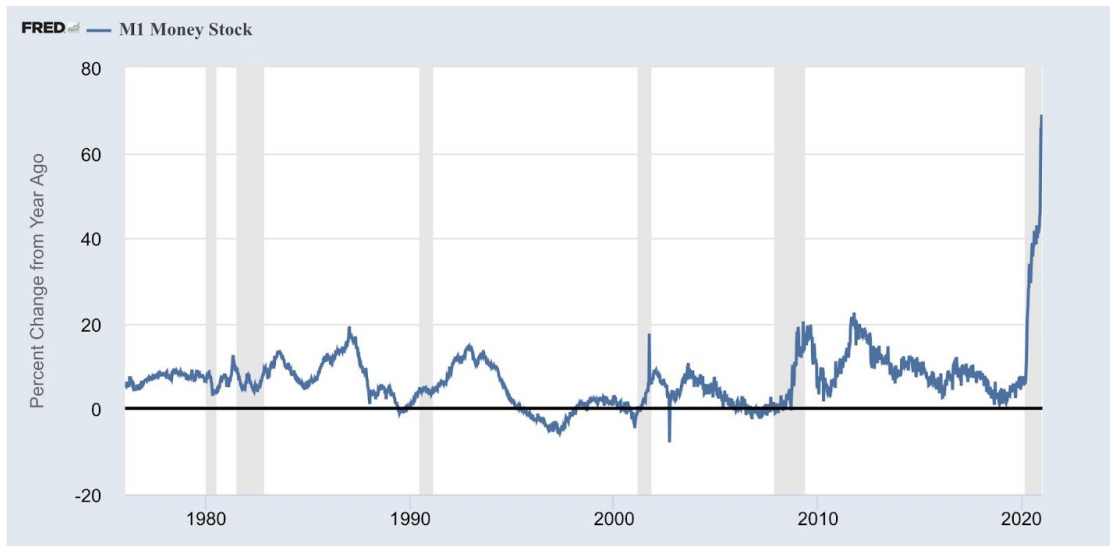
[Mas Nakachi - New York, New York | Professional Profile](#)

Ian and Mas have been talking about crypto over the last few weeks and this is a summary of those conversations.



Mas: So Ian, in 2020 we saw a rush of activity in \$BTC. From an investments perspective what's driving institutional demand for cryptocurrencies?

Ian: US M1 growth in 2020 was over 50 percent - that's the highest in fifty years by a factor of three. With Modern Money Theory gaining acceptance on Capitol Hill and another round of stimulus on the way, it's easy to understand the appeal of cryptocurrencies with controlled or finite supply as an inflation hedge in institutional portfolios.



Mas: About how much would a passive institutional allocation to cryptocurrency amount to?

Ian: That would depend a lot on the mandate for the portfolio, so let's assume we're talking about an unconstrained mandate that invests in the world market portfolio, so the investor simply wants to hold the assets of the world in proportion to their market value. Let's say very roughly there are \$100 trillion of equity assets in the world, \$140 trillion of bonds, \$10 trillion of precious metals and \$750 billion of crypto. We're going to ignore the rest of the commodity market, the real estate market and other real assets - that might throw the total assets off by 10 per cent or so and that's just not going to affect the answer that much. So total assets are about \$250 trillion.

Now the arithmetic is really simple. Our crypto allocation is 750 billion/250 trillion, or 3 parts in 1000 or 30 basis points. For each billion of assets under management we'd hold 3 million dollars worth of crypto. Our gold allocation is 10 trillion/250 trillion or 4 percent. For each billion of assets under management we'd hold 40 million dollars worth of gold. So our gold holdings would be thirteen times higher than our crypto assets based on this allocation model.

Mas: What other portfolio allocation models are worth highlighting?

Ian: The reason I started with the world market portfolio was that it'd probably be on the high end of passive allocation strategies. If we look at relatively passive risk parity strategies such as Ray Dalio's All-Weather Portfolio, the gold allocation has been between 5-10% of total assets. If we added crypto in the same ratio to gold as the market value to the All Weather inflation bucket, we'd get 37.5-75 bps, but we have to mark that down by a factor of 5 to account for the much higher volatility of crypto. So we end up with an allocation of 7.5-15 bps. That's less than the World Market Portfolio.

Ian: Investors like Paul Tudor Jones and Stanley Druckenmiller beginning to allocate some of their AUM to crypto is one thing but we are also beginning to see publicly traded corporates allocating some of their operating balance sheets to crypto as a reserve asset. Can you talk a little about developments in that space?

Mas: I'd group the corporates into miners like \$MARA, \$RIOT, \$HUT and operating companies such as \$MSTR and \$SQ that have decided to put at least some of their treasury reserve assets into crypto. Since miners are already in the crypto industry and most of the crypto on their balance sheet are current assets which they sell off quickly to continue funding operations, I think it is more interesting to focus on the other companies.

Ian: Agreed - miners I get but tell me more about \$MSTR and \$SQ .

Mas: Here is a breakdown on \$BTC on \$MSTR and \$SQ balance sheets as of Sep 30, 2020:

	% of Non-Current Assets	% of Total Assets
MSTR	68.67%	49.26%
SQ	3.13%	0.63%

Whether you take the \$BTC as a percentage of non-current assets (more on that later) or total assets, \$MSTR and \$SQ investments represent different levels of commitment to the asset . \$MSTR committing roughly 50% of their balance sheet to this asset (probably higher % now in Jan 2021) is definitely the biggest allocation for a public operating company by far even if \$SQ is the larger and higher profile company.

Ian: Is \$MSTR betting the farm on \$BTC?

Mas: Well one can certainly make that argument if you consider that they raised an additional \$650mm via a convert that they deployed into \$BTC. We will confirm in their next 10-Q but that would bring their total allocation to \$1bn in \$BTC.

As another point of reference, if \$PYPL, who like \$SQ is now actively providing its users access to the \$BTC markets, allocated even 1% of its Q3-20 total balance sheet to \$BTC (equivalent to 3.9% of non-current assets), that would be roughly \$655mm which in turn could easily be funded by approximately 10% of its cash on hand (i.e. no need to raise additional capital like \$MSTR).

In other words, if even a few large tech companies that are engaged in this market like \$PYPL started allocating bps to this asset, the capital inflows would dwarf what we have seen to date.

Ian: What was your point on non-current assets?

Mas: From a GAAP accounting perspective for these corporates, it looks like what little accounting standards there are recommend classifying crypto as *indefinite-lived intangible assets* which are non-current assets. This results in a very strange outcome for this asset class where it can be impaired (i.e. marked down), but then cannot subsequently be marked-up even though it is a very liquid asset with a daily MTM. Clearly there will have to be improvements on the accounting standards front before more public operating companies would be able to incorporate this asset class into their balance sheet.

For reference, here is the specific language from \$MSTR's Q3-20 10-Q filing:

Digital Assets: As of September 30, 2020, the carrying value of MicroStrategy's digital assets (comprised solely of bitcoin) was \$380.8 million, which reflects cumulative impairments of \$44.2 million since acquisition. MicroStrategy accounts for its digital assets as indefinite-lived intangible assets, which are initially recorded at cost. Subsequently, they are measured at cost, net of any impairment losses incurred since acquisition. MicroStrategy determines the fair value of its bitcoin based on quoted (unadjusted) prices on the active exchange that MicroStrategy has determined is its principal market for bitcoin. MicroStrategy considers the lowest price of one bitcoin quoted on the active exchange at any time since acquiring the specific bitcoin. If the carrying value of a bitcoin exceeds that lowest price, an impairment loss has occurred with respect to that bitcoin in the amount equal to the difference between its carrying value and such lowest price. Impairment losses are recognized as "Digital asset impairment losses" in MicroStrategy's Consolidated Statements of Operations. As of September 30, 2020, the average cost and average carrying value of MicroStrategy's bitcoin were approximately \$11,111 and \$9,954, respectively. As of October 26, 2020, at 4:00 p.m. EDT, MicroStrategy had 38,250 bitcoins and the market price of one bitcoin in the principal market was approximately \$13,023.

This looks like this on the actual balance sheet:

	September 30, 2020 (unaudited)	December 31, 2019
Assets		
Current assets:		
Cash and cash equivalents	\$ 52,653	\$ 456,727
Restricted cash	1,231	1,089
Short-term investments	0	108,919
Accounts receivable, net	148,512	163,516
Prepaid expenses and other current assets	16,040	23,195
Total current assets	218,436	753,446
Digital assets	380,758	0
Property and equipment, net	45,473	50,154
Right-of-use assets	79,296	85,538
Deposits and other assets	15,405	8,024
Deferred tax assets, net	33,537	19,409
Total assets	\$ 772,905	\$ 916,571

Contrast that with where it shows up on a miner's balance sheet (Current assets) - in this case, \$MARA:

	September 30, 2020 (Unaudited)	December 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 17,252,110	\$ 692,963
Digital currencies	451,889	1,141
Deposit	13,269,670	-
Prepaid expenses and other current assets	627,552	800,024
Total current assets	31,601,221	1,494,128
Other assets:		
Property and equipment, net of accumulated depreciation and impairment charges of \$7,507,970 and \$6,157,786 for September 30, 2020 and December 31, 2019, respectively	4,682,293	3,754,969
Right-of-use assets	224,954	297,287
Intangible assets, net of accumulated amortization of \$189,804 and \$136,422 for September 30, 2020 and December 31, 2019, respectively	1,020,196	1,073,578
Total other assets	5,927,443	5,125,834
TOTAL ASSETS	\$ 37,528,664	\$ 6,619,962

It is still an *indefinite-lived intangible asset* and therefore can be impaired but it is classified as a current asset because miners are always selling:

Digital currencies are included in current assets in the consolidated balance sheets.
Digital currencies are recorded at cost less impairment.

Digital currencies at December 31, 2019	\$ 1,141
Additions of digital currencies	1,713,832
Realized gain on sale of digital currencies	15,466
Sale of digital currencies	(1,278,550)
Digital currencies at September 30, 2020	\$ 451,889

Ian: Isn't there other activity in the public company sphere regarding companies in the digital asset space?

Mas: Yes - Bakkt will be going public through a merger with \$VIH which is a fintech-focused SPAC and Coinbase has filed a confidential S-1 with the SEC in Dec 2020 so there is a high

likelihood that we will have two publicly traded, non-miner, digital asset companies in Q2-21. Their respective valuations are expected to be around \$2.1bn for Bakkt and \$8bn for Coinbase.

Mas: Changing gears, are cryptocurrencies considered money?

Ian: I'd assign crypto currencies to the commodity bucket. While crypto can be used to settle transactions it's not money in the sense that it can be delivered against taxes in any major economy. Crypto is also not money in the sense that money can be created by government fiat. Crypto takes considerable effort, cost, and expertise to "create". While we could probably find a currency that had the volatility of \$BTC or \$ETH, that currency wouldn't be considered a store of value. So we'll go with the US regulators and put crypto in the commodity bucket. More specifically crypto would sit comfortably alongside a precious metals allocation, as another inflation hedge.

Mas: I would generally agree in the case of \$BTC, which I do view as a digital precious metal, but \$ETH that is used to power smart contracts I view more like digital oil but that is a bigger topic in itself so we can save that for another conversation.

Mas: Let's get back to the investment side of things - can you tell me a little a bit about returns, volatilities and correlations for digital assets compared to traditional financial assets?

Ian: If crypto is a commodity then it has no place in a fixed income mandate. Crypto could have a place in an equity portfolio as having equity risk/return characteristics. If we take a look at the time series data we don't have that much to work with. \$BTC was created in 2009 and \$ETH in 2015. If we leave out a couple of \$ETH early years, which include episodes like the DAO hack, we have three years of time series data to work with.

12/28/2017-12/31/2020			Front Gold			20+ year bonds	Front Oil
<i>Annual</i>	<i>BTC</i>	<i>ETH</i>	<i>GC1</i>	<i>TSLA</i>	<i>SPTR</i>	<i>TLT</i>	<i>QM1</i>
Volatility	76.3%	97.9%	14.8%	65.1%	21.6%	13.6%	47.1%
Return	22.7%	0.0%	12.6%	80.0%	13.0%	9.4%	-7.0%

The volatilities of \$BTC and \$ETH are really eye popping compared to more traditional assets and commodities. Even Oil is only about half the crypto volatility. \$TSLA is getting there, and that's been a wild ride. Looking for historical context in an inflation hedge - Nixon came off the gold standard in 1971 and retail ownership of gold was legalized by Congress in 1974. If we look around the time of the Hunt brothers attempted corner of the silver market in 1980, the largest gold volatility in a 3-year window is just over 40%.

Crypto returns are pretty sensitive to the start and end of the window - we happen to have picked a period when \$ETH is about the same level at the start and the end. If we go back a bit further \$ETH returns will look a lot better.

That volatility means both big gains and big draw downs. Both \$BTC and \$ETH have lost more than half their value in a week.

Weekly	BTC	ETH	GC1	TSLA	SPTR	TLT	QM1
Max Return	24.5%	43.8%	11.0%	26.3%	10.0%	9.7%	20.5%
Min Return	-60.2%	-71.3%	-7.2%	-28.1%	-19.8%	-6.0%	-39.5%

The good news is that volatility comes with relatively low correlation to traditional assets, and low correlation is the only free lunch in investing.

Correlation	BTC	ETH	GC1	TSLA	SPTR	TLT	QM1
BTC	1.00	0.81	0.20	0.09	0.36	-0.04	0.23
ETH	0.81	1.00	0.17	0.15	0.39	-0.10	0.24
GC1	0.20	0.17	1.00	0.26	0.34	0.48	0.09
TSLA	0.09	0.15	0.26	1.00	0.58	0.01	0.26
SPTR	0.36	0.39	0.34	0.58	1.00	-0.15	0.50
TLT	-0.04	-0.10	0.48	0.01	-0.15	1.00	-0.16
QM1	0.23	0.24	0.09	0.26	0.50	-0.16	1.00

Mas: So getting to the key question, what happens if institutional portfolios and/or corporate treasuries put a reasonable allocation into crypto?

Ian: Right now, \$BTC and \$ETH are really the only games in town for investments in size. The old adage was “Put 5% of your portfolio in Gold and hope it goes down”. Chamath Palihapitiya says put 1% of your portfolio in \$BTC as a “fantastic hedge”. We have mined almost 90% of all the \$BTC that will ever exist. Any reasonable allocation is going to mean large flows into a commodity with finite supply. If \$BTC becomes the new gold we’re looking at a price per coin that’s an order of magnitude higher than where we are now. That’s not a statement about value.

Mas that was great, there are a number of themes we haven’t touched on such as the crypto threat to national currencies, crypto traceability, crypto and ESG, so let’s pick this up again before too long.

Mas: Looking forward to it.

© 2021 xoquant llc and GradientFPX, LLC

Disclosure

Ian doesn’t own any crypto currencies. Mas has a crypto portfolio composed mostly of \$BTC and \$ETH but with a single-digit % allocated to smaller / newer protocols like \$DOT. Neither Ian nor Mas own any of the equities mentioned in this document.

Disclaimer

All investment strategies and investments involve risk of loss. Nothing contained in this document should be construed as investment advice, financial advice, professional advice or tax advice. Any reference to an investment's past or potential performance is not, and should not be construed as, a recommendation or as a guarantee of any specific outcome or profit.

We make no representations or warranties of any kind, express or implied, as to the information in this document. To the fullest extent permissible under the law, we disclaim all warranties, express or implied, including implied warranties of merchantability and fitness for a particular purpose.

You agree to absolve us of any and all liability or loss that you or any person or entity associated with you may suffer or incur as a result of use of the information contained in this document. You agree that we shall not be liable to you for any type of damages, including direct, indirect, special, incidental, equitable, or consequential loss or damages for use of this document.

#btc #bitcoin #eth #ethereum #mstr #cryptocurrency #crypto #blockchain #bitcoinmining #forex #trading #money #bitcoinnews #cryptocurrencies #investment #bitcointrading #cryptotrading #invest #coinbase #binance #defi