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Will Twitter Get A Blockchain Reboot?

I want to start off this month's issue by talking about Elon Musk's purchase of Twitter. By now I'm sure you've all read the hot takes and know the key details of how his initial 9.2% stake in Twitter became a $44 billion hostile takeover of the platform.

For as much as I've criticized Musk in the past for the nonchalance with which he tweets, oftentimes about crypto, which many of his young followers take as investment advice, he is unquestionably an impressive entrepreneur. I know that I'm stating the obvious–after all he is the richest person in the world, worth more than $240 billion according to Forbes–but he got there by pioneering new industries, electric vehicles and commercial spaceflight.

Twitter might be his biggest challenge yet. His success or failure will have dramatic implications for crypto and the future of Web3 (a decentralized internet built on the blockchain).

Twitter Was Due For A Makeover

As you can see in the chart on the next page, for all the attention Twitter gets as a platform, its stock has provided a modest return to investors since the company went public in November 2013.

There are multiple reasons for this; anyone who has spent any meaningful amount of time on the platform knows that it is nonintuitive, difficult to navigate and littered with spam bots. The immediacy of the platform and its microblogging nature allowed it to scoot ahead of newspapers to become the first rough draft of history.

The company's latest earnings released April 28–likely its last as a public company–were a microcosm of its struggles. Amazingly, due to challenges accounting for users with multiple profiles the company embarrassingly overcounted users for at least the last three years (see chart page 3).

Even more interesting is the fact that the number being used here is mDAU, which is essentially a metric created by Twitter back in 2019 that stands for "monetizable daily active users." Twitter even noted in its fiscal year 2019 revenue numbers that this statistic is not based on any standard industry methodology. It is certainly a warning sign anytime a firm needs to create statistics as a way to shine up its performance.

Twitter Treading Water Since 2013 IPO

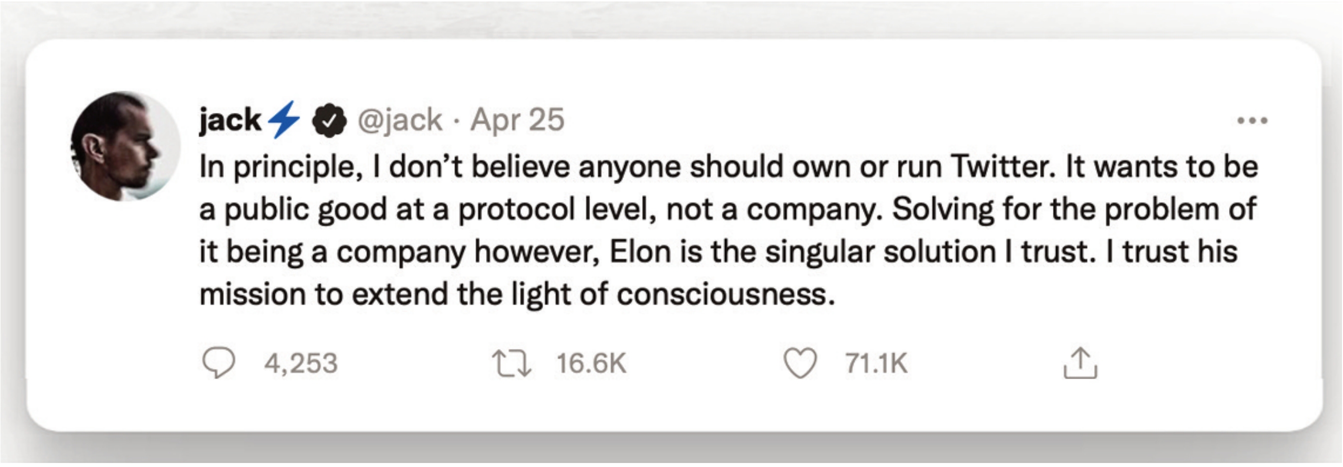
Twitter Needs A Crypto Knight

I've previously written that Elon Musk is the hero that crypto deserves. At the time I meant it as a positive and negative, and I still do now.

If someone is going to reinvent Twitter, it should be Musk. After all, he has shown much more than a passing interest in crypto, and Twitter has become the de-facto town square for all

About The Editor

Steven Ehrlich is director of research for digital assets at Forbes. He was the social media/copy lead at Kraken, a cryptocurrency exchange based in the U.S. Prior to joining Kraken he served as chief operating officer at the Wall Street Blockchain Alliance (WSBA), a non-profit trade association dedicated to the comprehensive adoption of crypto-currencies and blockchain technologies across global markets. Before joining the WSBA, he was the lead associate within the emerging technologies practice at Spitzberg Partners, vice president/lead strategy analyst at Citi FinTech, and he served five years as a senior intelligence analyst at Booz Allen Hamilton supporting the U.S. Department of Defense. He has a B.S. in Business Administration from the Tepper School of Business at Carnegie Mellon University and a M.A. in International Affairs from Columbia University's School of International and Public Affairs.



things in the industry. It's not an accident that most of the platform's recent innovations–from partnering with OpenSea to let NFT holders display the assets as profile pics to integrations with Bitcoin's Lightning Network for tipping–focus on crypto.

Former CEO Jack Dorsey even mused about decentralizing the platform. I believe Dorsey when he says that he did not know anything about Musk's plans when he resigned from Twitter. However, today he endorses Musk as the right, and perhaps only, person to fix things. Much like crypto itself, Twitter remains a work in progress with an extremely loyal following. There are places for these interests to overlap.

This Won't Be Like Last Time

Success at Twitter will require a different set of skills than it took to build Tesla or SpaceX. To get a sense of the forces Musk is going to come up against, think about how technology and social media executives have been treated in front of Congress in recent years either for privacy or censorship concerns. In many cases these are the only times where the two parties are united on a single issue–that didn't even happen when it came to Ukraine! Musk was able to benefit from generous subsidies both at the state and federal level when it came to building Tesla, but with Twitter he is likely going to face near universal opposition to what he is building, both in the U.S. and abroad.

Twitter Oversold Its Users By Millions

	Difference In Millions				
Sector	Q4'20	Q1'21	Q2'21	Q3'21	Q4'21
U.S.	-0.3	-0.3	-0.3	-0.3	-0.3
International	-1.1	-1.3	-1.4	-1.4	-1.5
Global	-1.4	-1.6	-1.7	-1.7	-1.9

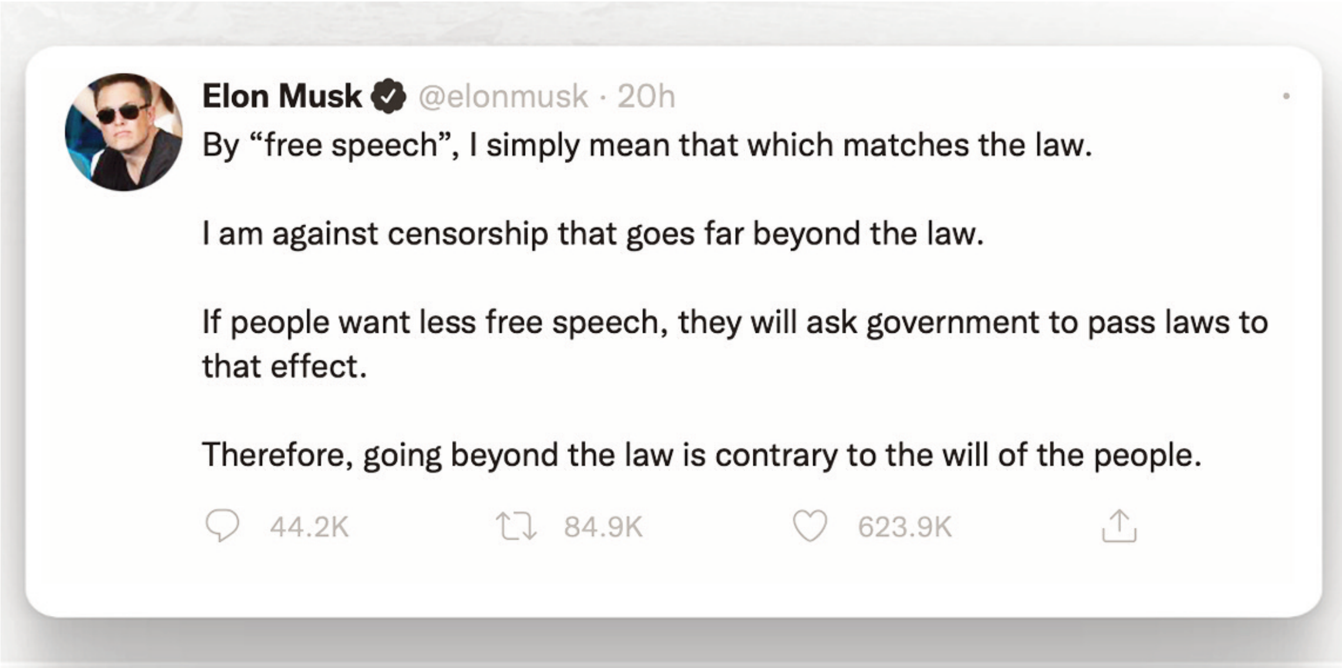
But that is not even his biggest issue. Knocking down the wall of Web2 is going to take a Herculean effort. Everybody is aware of the problems when it comes to Web2, like the creepiness of data trackers such as cookies and the inordinate amount of knowledge that they provide about us. Despite these hesitations, consumers still like the convenience of the products. All that runs on advertising, and those advertising dollars are driven by sophisticated algorithms that track user activity on the site and elsewhere to feed ads to the user at the precise time that they are ready to buy.

To be frank, this cannot be replicated on any truly decentralized blockchain right now at the scale of these companies. There have been numerous failed attempts. BitClout might be the best/worst example, where a pseudonymous founder that was widely thought, and eventually confirmed to be Nader Al-Naji, the founder of the failed algorithmic stablecoin Basis, revealed itself to the world with a widely mocked rollout where public personalities could claim profiles already created for them and an allotment of tokens. Today, nobody that I know is using the platform and it has even been rebranded to DeSo (short for decentralized social media).

Gimmicks will not work, and unless there is a way to replicate Twitter's stickiness, even without the ads, there is nothing left to talk about. To be honest, I'm hopeful that Musk will create a subscription plan that we can pay for, even in **Doge coin** (**DOGE**), to avoid ads. But that is the easy part. Raising switching costs is the real challenge.

It Won't Be Happy Decentralization Ever After

We won't know the full extent of Musk's plans until likely well after the acquisition closes. But in a statement from Twitter announcing the takeover Musk issued a paean of sorts to the decentralization crowd. "Free speech is the bedrock of a functioning democracy, and Twitter is the digital town square



where matters vital to the future of humanity are debated...I also want to make Twitter better than ever by enhancing the product with new features, making the algorithms open-source to increase trust, defeating the spam bots, and authenticating all humans."

But I'll save you the suspense now–Twitter will not turn into some sort of DAO (decentralized autonomous organization) with a token and have that be the end. While Twitter's censorship practices are likely to come under scrutiny again, as they should like any other social media firm, governments are not going to let illicit actors run rampant across these platforms and say, "oh well, since it's a DAO there is nothing we can do." The SEC is reportedly doing several investigations into DeFi, and I have to think that security, privacy and communications regulators like the FTC, FCC, FBI and their counterparts around the world be as aggressive in policing any type of decentralized application with meaningful traction–particularly one that facilitates financial transfers.

Privacy-enhancing technology may not save people either or free Musk from certain responsibilities. Remember how the FBI was eventually able to hack into the San Bernardino shooter's phone despite Apple refusing to assist? When it comes to crypto, forensic firms such as Chainalysis have developed ways to demystify privacy enhancing tools such as mixes like Tornado Cash. The same is likely to happen here, and when that time comes, Musk will have to show his hand when it comes to censorship. He clearly hopes, as judged by this tweet (see page 4), that this responsibility can be passed onto regulators, legislations and the citizenry, but many people may not see things the same way.

Exciting Times Ahead

I am looking forward to seeing what Musk–a brilliant innovator and the richest person on the planet–does with Twitter, possibly the world's most powerful media source. As I laid out, the challenge is massive, but because of his wealth he is able to take control of this platform without having to worry about the Silicon Valley money that many individuals, most notably Jack Dorsey, could risk undermining the decentralized potential of Web3. He probably has the best shot of anyone, and if he succeeds it could lead to an explosion of Web3 companies plugging into the Twitter API and replicating its success around the world. Digital assets, of both the native variety and CBDCs (central bank digital currencies), would likely see dramatic growth.

Finally, a brief word for any of you thinking about trading opportunities related to the takeover. Dogecoin briefly pumped when Musk's large stake was first announced on April 4, and then again on April 25 when Twitter announced it had accepted his takeover bid. However, overall DOGE is down on the month. Twitter stock is currently trading at $49.16, up almost 20% from the $39.12 it was at before Musk's takeover was announced. The stock was not in any of our portfolios because of my concerns about the business model, detailed above, but if any of you owned the stock prior to April you are likely looking at a healthy profit when it gets repurchased by Musk at $54.20. However, I would think carefully about buying it now to try and get what appears to be a risk-free $5 profit per share. In my opinion there remains a strong degree of risk that the deal ultimately fails to materialize in the coming months (Musk can walk away for just $1 billion), which is a major reason why the price is yet to converge with the purchase price. F

Crypto Portfolios/ Looking Upstream For Opportunity

I'm preparing this article as crypto prices are once again falling after a strong end to March, which I detailed last month. I get that this can be deflating for some, myself included. It probably comes as little relief to highlight how almost all traditional markets are falling across the board now as we continue to see rising interest rates, fears of renewed Omicron spreads coming out of China, growing inflation, and the ongoing war in Ukraine.

Given these current circumstances, I want to use this section to give you a bit of a pep talk and some advice from what I've learned investing during bearish times, especially with crypto.

1. Resist the urge to cut and run: I'm not saying to never sell your assets, but it is easy to make emotional or irrational decisions during trying times, and that is just not a smart way to operate in general regardless of the situation. The last thing you ever want to do is sell low.

2. Automate certain behaviors: As you know, I am a big fan of dollar-cost averaging. This is a process where you make the same purchases every month (during bull and bear markets) in an effort to smooth out the average acquisition price of your portfolio. This can take some self-control, but when it comes to crypto it has always paid off in the long term.

Core Portfolio Feels Macro Pain

Bitcoin Is Waiting For Its Next Big Move

3. Look for what is coming next: Many of the companies today that are achieving multibillion-dollar valuations in private markets began around the time of the last crypto winter: Middleware company Alchemy ($10.5 billion, founded in 2017), OpenSea ($13 billion, 2017), FTX ($32 billion, 2018) and Fireblocks ($8 billion, 2018).

This last part is perhaps the most important. $27 billion in venture capital was invested in the industry last year, and $9.2 billion was invested in the sector in the first quarter. Clearly, venture investors are looking far past the current market turmoil in the search for new value. I've spoken with many of them in recent weeks, and some of the verticals they are paying closest attention to include the intersection of gaming and finance, NFTs, interoperability protocols, and more customizable blockchains that offer modular approaches to tools such as transaction validation and privacy. In fact, I will be publishing an exclusive interview for you with Avichal Garg, partner at Electric Capital, a venture firm that just raised a $1 billion fund and publishes a widely respected and cited annual report on developer activity in the industry. You can find the last copy of the report here. I've used his report in identifying candidates for my watch list and portfolios–in fact, **Near Protocol's (NEAR)** outperformance in terms of developer activity is a big reason why I added it to the Crypto Accelerator Portfolio last month.

Before I get to the portfolios, my sense is that right now the market is going to trade within a tight band before it finally finds a breakout in one direction or another. We will likely see some fluctuations regarding individual assets, but the highly correlated nature of the market suggests that most will

Bitcoin Remains In An Upward Trend

ultimately follow bitcoin's lead. So, let's take a look at what the chart on page 7 tells us.

There is a lot going on here, so I'll walk you through this slowly. But the TL:DR is that right now things actually look pretty calm for **bitcoin (BTC)**. The asset remains relatively centered within its Bollinger Bands and its Relative Strength Index reading for 2022 is just under 50, suggesting that the asset is neither overbought nor oversold. Finally, I want to introduce a relatively new indicator that I've started using (you'll learn more about this in the Q&A section), called Moving Average Convergence Divergence (MACD). This indicator tracks the relative strengths of the 26- and 12-day exponential moving averages (EMAs) to try and identify near-term buy and sell signals. The MACD is positive when the 12-day EMA is higher than the 26-day and vice versa. With this chart traders try to look for crossovers. For instance, if the MACD is getting ready to flip positive that could be an indicator to buy. However, as you can see in the chart, the MACD is negative (it has been for most of April), and the lines are moving in parallel to each other. This means that the 12- and 26-day trends are moving at the same pace in the same direction, again suggesting that there will be no short-term breakout.

But, as you can see from the above chart, bitcoin remains in a long-term bullish pattern, and providing that the reversals we are seeing do not break the trend line plotted below, which has so far proven to be an important price floor. Now let's get to the portfolios.

Crypto Asset Core Portfolio

This portfolio is down 16.7% this month. As you can see in the chart on the next page, the assets

Core Portfolio Assets Moving In Unison

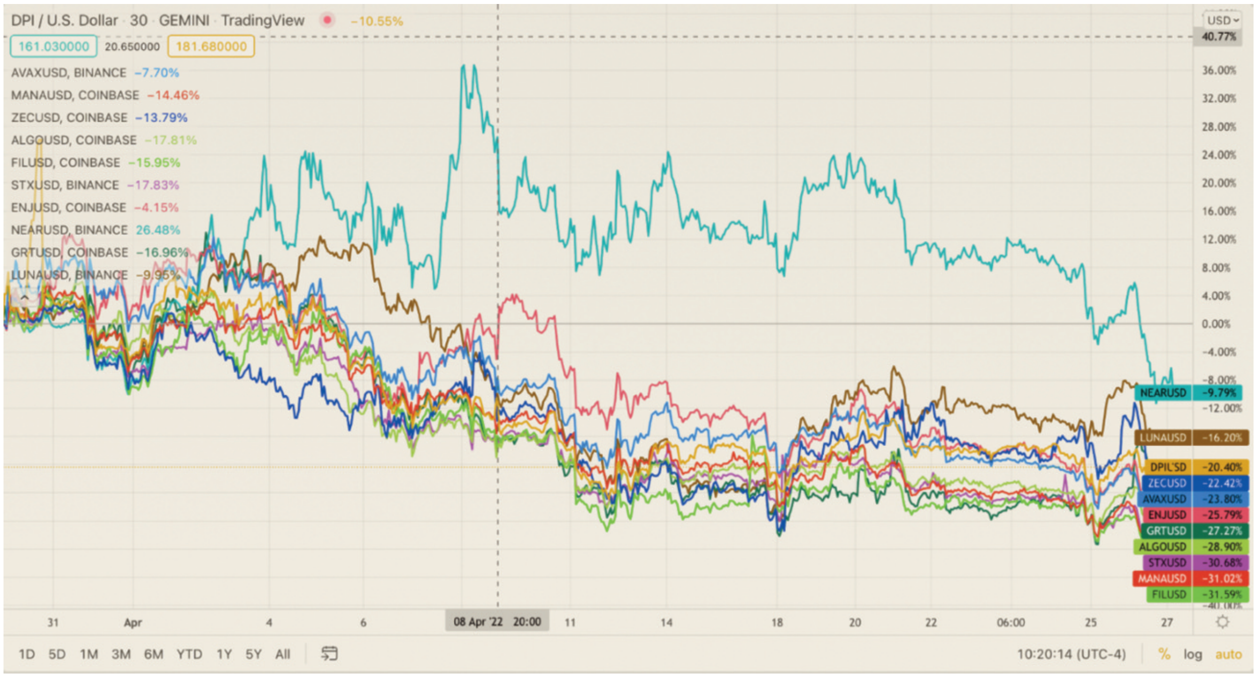
were down an average of approximately 20% on the month, and as it tends to happen during bearish sentiments, bitcoin and **ether (ETH)** were among the category leaders. **Uniswap (UNI)** lost 22% on the month, making it one of the weaker performers, but I'm cautiously optimistic about its near/mid-term potential as the company on top of the protocol is launching its own venture capital wing and brought in a key executive from BlackRock as its new COO. I will be speaking with her soon to get a sense of what we can expect from the product moving forward.

Crypto Accelerator Portfolio

This portfolio had a similar performance, with most assets down a little more than 20%. It is noteworthy that the two best performers were new additions from last month, Near Protocol and **Luna (LUNA)**, even if they were also negative. Luna has continued to allocate hundreds of millions of dollars worth of bitcoin as a form of reserve for its algorithmic stablecoin, **TrueUSD (TUSD)**. Near was positive for most of the month before dropping at the tail end. Two reasons for this surge were the announcement that legendary hedge fund Tiger Global made a strategic investment in the protocol, and then on April 7, leading crypto investor and billionaire founder of Digital Currency Group Barry Silbert revealed that NEAR was his firm's third largest holding after bitcoin and ether.

This month we are not making any changes to either crypto portfolio.

Near Protocol Close To Having Positive Month



NEAR Is Barry Silbert's New Crypto Crush

Crypto Asset Core Portfolio

Coin/Token	Ticker	Recommended Date	Recommended Price	Recent Price	Allocation
Bitcoin	BTC	Sept. 28, 2018	$6,675	$39,492	42.5%
Ethereum	ETH	Jan. 9, 2019	$151.17	$2,888	27.5%
Uniswap	UNI	April 20, 2021	$31.50	$8.10	7.5%
Chainlink	LINK	Feb. 25, 2021	$26.27	$12.52	5.0%
Polkadot	DOT	May 25, 2021	$21.18	$16.87	5.0%
Polygon	MATIC	May 25, 2021	$1.43	$1.24	5.0%
Solana	SOL	Aug. 27, 2021	$82.40	$98.09	5.0%
Cardano	ADA	March 23, 2021	$1.15	$0.83	2.5%

Data through April 27, 2022. Price Source: Forbes Digital Assets.

Crypto Accelerator Portfolio

Coin/Token	Ticker	Recommended Date	Recommended Price	Recent Price	Allocation
DeFi Pulse Index	DPI	Aug. 27, 2021	$385.76	$165.19	20.0%
Avalanche	AVAX	Aug. 27, 2021	$44.91	$67.66	15.0%
Decentraland	MANA	Aug. 27, 2021	$0.89	$1.80	12.5%
Zcash	ZEC	Aug. 27, 2021	$144.00	$191.79	12.5%
Algorand	ALGO	Jan. 26, 2021	$0.56	$0.67	10.0%
Filecoin	FIL	Aug. 27, 2021	$72.98	$17.77	10.0%
Stacks	STX	Aug. 27, 2021	$1.38	$1.04	10.0%
Enjin Coin	ENJ	Nov. 23, 2021	$3.95	$1.28	5.0%
Near Protocol	NEAR	March 29, 2022	$14.02	$12.46	3.0%
Graph	GRT	March 29, 2022	$0.49	$0.38	2.0%
Luna	LUNA	March 29, 2022	$107.75	$87.94	1.0%

Data through April 27, 2022. Price Source: Forbes Digital Assets.

Blockchain Stock Portfolios/ Time To HODL

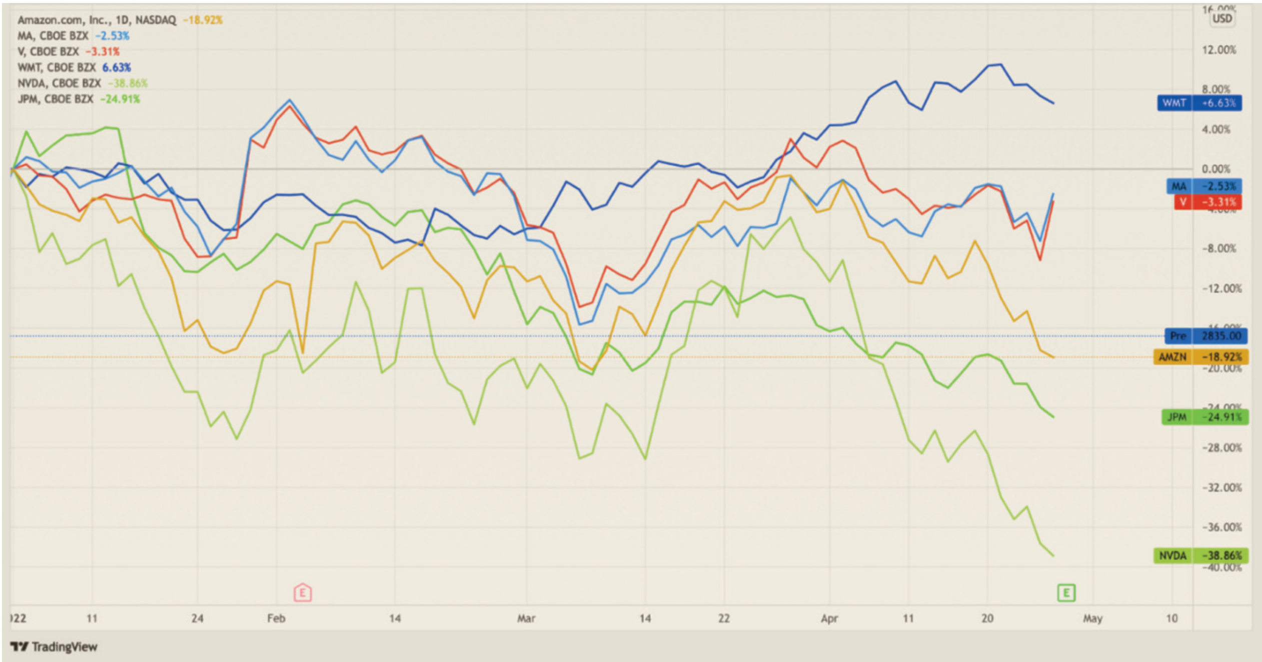
As expected during market downturns, both stock portfolios were negative for the month of April. The **Blockchain Equity Portfolio (BEP)** was down 5.3% and the **Crypto Asset Stock Portfolio** fell 27.3%.

Let's dive in to see what is going on, starting with the BEP. On the positive side, **Walmart (WMT)**, **Mastercard (MA)** and **Visa (V)** were the strongest performers. While Visa and Mastercard were negative for the month, you can see in the chart below that they have risen about 10% in the past couple of days, and it seems that they could be poised for more growth as travel restrictions continue to abate and people start spending more.

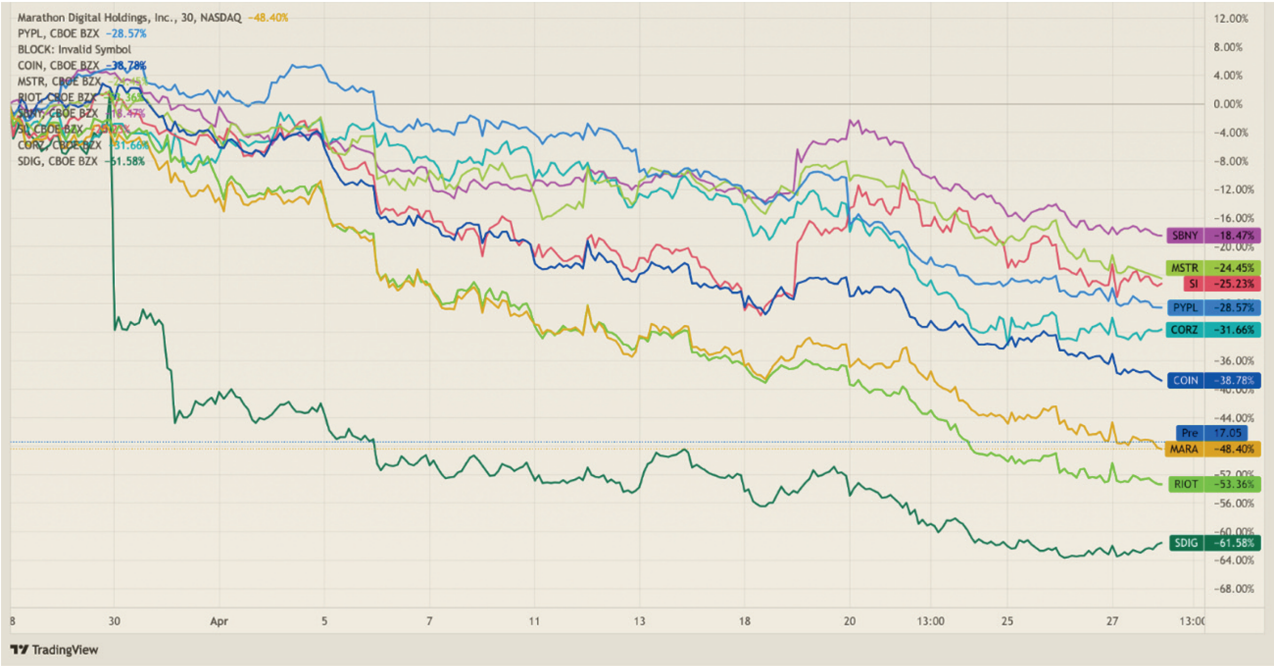
Additionally, as I mentioned last month Visa and Mastercard had their stock prices weighed down by their sudden exits from Russia, but by this point that news has run its course. While the companies still need to revise their guidance on account from losing access to a market that comprised up to 5% of its fees, that has already been priced into the stock among investors.

As a data point to consider as a guide, Lisa Ellis from MoffettNathanson referred me to American Express' earnings, which came out last week. She noted that their travel results in March, after having a brief dip in January due to Omicron, were up to 99% of their levels in 2019. A very good sign. She does not expect the same level of performance for Visa and Mastercard when it comes to travel just yet, but she expects a similar pattern and the stocks to benefit from their higher margins. "The key there is that that's a very high leverage line,

Visa And Mastercard Are Brushing Off Their Russia Exits

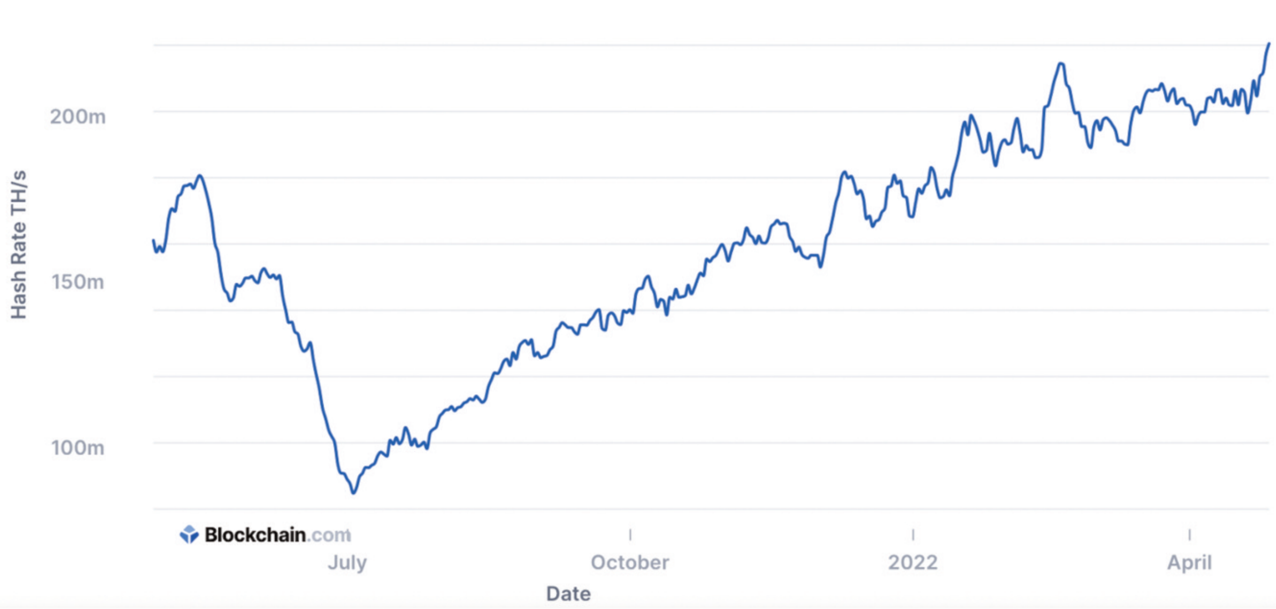


Crypto Proxy Stocks Moving In Sync



Bitcoin's Hash Rate Is At An All Time High

Total Hash Rate (TH/s) The estimated number of terahashes per second the bitcoin network is performing in the last 24 hours



meaning it's basically dropped straight through to profits. There are no contra incentives, and there's really no expense to it. So, it's very highly levered," Ellis said.

I am going to pay special attention to **Nvidia (NVDA)**, as it has been one of the weaker performers in the portfolio over the past couple of months. It could be struggling as a result of some overperformance during the pandemic as graphics chips moved into such high demand, so there could be a bit of a correction coming. However, I still see Nvidia as a very strong company that is well-poised to capture significant market share and revenues moving forward as demand for its chips persist.

Turning to the second portfolio, again I think it is most important to just ride out the storm and keep our convictions in its components. There is probably no better example than **Coinbase (COIN)**, which hit an all-time low this week of $113.32 amidst bearish sentiment in the market and concern about fee compression as competition tightens. The launch of its much-awaited NFT marketplace last week did not really move the needle either.

However, my personal belief is that Coinbase is trading more on emotion and most watchers are ignoring its longer-term potential of moving past being an exchange to a much more diverse entry-point to all things crypto. Owen Lau, executive director at Oppenheimer, agreed with this sentiment, telling me that many of the knocks against Coinbase such as competitive concerns and regulatory headwinds are overblown. As a quick counterpoint he noted that the retail fees charged by Coinbase have largely stayed the same; it is the institutional fees that have come down to about 42 bps, but even then, they are counteracted by much higher volume. Lau also says that he's heard very good things about Coinbase's NFT marketplace launch, which should feel more like a social media platform and be more distinctive from the OpenSeas of the world. It has three million people on the wait list.

I want to briefly discuss mining stocks. They have certainly gotten squeezed this month as prices continue to drop and hash rate grows. It actually just hit a new all-time high of 220m TH/s. The combination of making it harder to mine bitcoin and less valuable block rewards will weigh on stock price.

However, again there are signs that things are going to start loosening up soon. Christopher Brendler at D.A. Davidson tells me that the growing price pinch will squeeze out smaller players looking to leverage their balance sheets to come online, clearing some room for big players such as **Marathon Digital (MARA)** and **Riot Blockchain (RIOT)**—which just announced the launch of a 1 billion gigawatt facility in Texas—to grow. Things are much different than last fall when bitcoin was surging and China had just kicked out all the miners. "Core Scientific, Riot and Marathon (ones I cover), were ahead of the curve in terms of developing power, ordering machines and also raising capital. Marathon and Riot in particular did some pretty significant raises last year when Bitcoin was hot, and that's helped pay for their expansion plans this year," Brendler said.

This smart capital management has helped insulate the firms to a certain extent from price volatility, which should help them outpace some of the smaller firms that face less attractive financing options for expansion or must resort to dilutive equity sales.

Finally, I want to briefly touch on an interesting transaction between two other members of the portfolio, **MicroStrategy (MSTR)** and **Silvergate BANK (SI)**. As I've covered in past issues, MicroStrategy has been adept at using its balance sheet and cap table to fund bitcoin purchases. Although its purchasing has slowed down recently, it did manage to secure a $205 million loan from Silvergate collateralized by bitcoin, the first such loan that the bank has offered. This is noteworthy

Crypto Asset Stock Portfolio

Company	Ticker	Recommended Date	Recommended Price	Recent Price	Allocation
Marathon Digital	MARA	July 21, 2021	$25.06	$16.72	15%
PayPal	PYPL	Nov. 23, 2020	$200.82	$82.61	15%
Block	SQ	Sept. 28, 2018	$99.01	$99.93	15%
Coinbase	COIN	April 20, 2021	$333.00	$122.55	10%
MicroStrategy	MSTR	Aug. 27, 2021	$693.66	$385.78	10%
Riot Blockchain	RIOT	Aug. 27, 2021	$36.28	$23.00	10%
Signature Bank	SBNY	Aug. 27, 2021	$254.55	$247.49	10%
Sivergate Bank	SI	Dec. 9, 2019	$15.32	$119.05	10%
Core Scientific	CORZ	Nov. 23, 2021	$13.47	$6.12	2.5%
Stronghold Digital Mining	SDIG	Nov. 23, 2021	$21.29	$3.87	2.5%

Data through April 27, 2022. Price Sources: Forbes, YCharts.

Blockchain Equity Portfolio

Company	Ticker	Recommended Date	Recommended Price	Recent Price	Allocation
Amazon.com	AMZN	Oct. 31, 2018	$1,598.01	$2,763.34	25.0%
Visa	V	Feb. 25, 2021	$213.59	$214.11	20.0%
Walmart	WMT	May 7, 2020	$121.89	$154.24	20.0%
Mastercard	MA	Feb. 25, 2021	$354.62	$361.57	15.0%
JPMorgan	JPM	Aug. 27, 2021	$161.75	$121.42	10.0%
Nvidia	NVDA	Nov. 23, 2021	$319.56	$184.15	10.0%

Data through April 27, 2022. Price Sources: Forbes, YCharts.

for a few reasons. One, it suggests that MicroStrategy may continue to have financing options being equity sales or revenue from its business analytics business, something that Mark Palmer from BTIG said to look for. It is a major step forward for Silvergate's novel lending program, called SEN Leverage, as the bank tries to move beyond its fee-based model of servicing crypto firms.

We are not making any changes to either blockchain portfolio this month.

Portfolio Performance

Portfolio	1-Month Return	Return Since Inception
Crypto Asset Core Portfolio	-16.7%	583.0%*
Crypto Accelerator Portfolio	-26.8%	-11.9%†
Blockchain Equity Portfolio	-5.3%	24.7%*
Crypto Asset Stock Portfolio	-27.3%	-47.3%†
Bitcoin	-13.7%	494.2%*
Siren Nasdaq NexGen Economy ETF^	-16.4%	39.2%*

^ETF proxy for enterprise blockchain companies

**September 28, 2018. †August 27, 2021.*

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Crypto Intelligence/ Interview With Fairlead Strategies Founder Katie Stockton, CMT

There are many approaches to analyzing markets, but most strategies ultimately fall under two main fields, technical and fundamental analysis. Technical analysis tends to look at price charts and key indicators to dictate trading strategy, while fundamental approaches utilize a mix of qualitative and quantitative analysis such as assessing an asset's intrinsic value and broader macro factors to make decisions. I tend to use the latter in my approach to this newsletter and the associated portfolios, as they are geared towards an innovative investor that is looking for passive exposure to the market. However, given the explosion of data and analytics in the industry as well as the influx of institutional investors it is always important to understand how traders employ technical analysis in their activities.

One of the industry leaders is Katie Stockton, founder and managing partner of Fairlead Strategies, LLC, an independent research firm and investment advisor focused on technical analysis. Prior to forming Fairlead Strategies, Katie spent more than 20 years on Wall Street providing technical research and advice to institutional investors. Most recently, she served as chief technical strategist for BTIG for four years, and prior to that chief market technician at MKM Partners for nine years. She also worked for technical strategy teams at Morgan Stanley and Wit Soundview. Stockton graduated with honors from the University of Richmond with a BSBA, and she now serves on the business school's Executive Advisory Council.

I spoke with her to get a sense of how she is approaching the market during these uncertain times and ask some important questions such as what indicators she relies on the most, what she does when they give off conflicting signals, and how she gets around concerns about market manipulation and wash trading.

FORBES: When did you first get into crypto?
KATIE STOCKTON: About three years ago. I was inspired by one of my clients who said there's a real application for what you do in the cryptocurrency market, which is widely misunderstood. We also noticed that people were trafficking in crypto without knowing a whole lot about the industry. So, we felt like we

could add some value in terms of our discipline and helping people understand how to best invest in or trade these cryptocurrencies.

FORBES: What does technical analysis mean?
STOCKTON: I hate to say it, but I wish it wasn't called technical analysis because I think it's mistaken for things that are technical as it pertains to technology. Charting is more accurate as a description of what we do. We see technical analysis as one discipline of several that can be used to understand markets, and its goal is primarily to understand price trends and where there may be inflection points as well as potential areas of buying and selling pressure. And we're doing that through an understanding of supply and demand. The way you understand supply and demand is by simply analyzing price. The only other data point that the market lends itself to in technicals is volume, but our focus is on price. We use a number of technical indicators to take out some of the gray area of the markets, and because they give you a binary buy or sell signal. We welcome that since the takeaway is usually black and white.

FORBES: What are some of those indicators?
STOCKTON: I'll give you sort of the big picture and how I think about technical indicators. I classify them in three ways: trend following, overbought/oversold conditions and relative strength. We have probably two or three for each category. I always tell people, you don't want to have too many indicators that are trying to get the same answer, because then you'll find some confirmation bias and or duplication in what you're doing. And remember, this is all based on price. So you also don't want to get too many derivatives away from price. One of the indicators I use for trend following is the MACD, which stands for moving average convergence divergence, and it's probably the most common technical indicator out there (please see the crypto portfolio article for a detailed overview of the MACD indicator).

> "We see technical analysis as a discipline that can be used to understand price trends and where there may be inflection points as well as potential areas of buying and selling

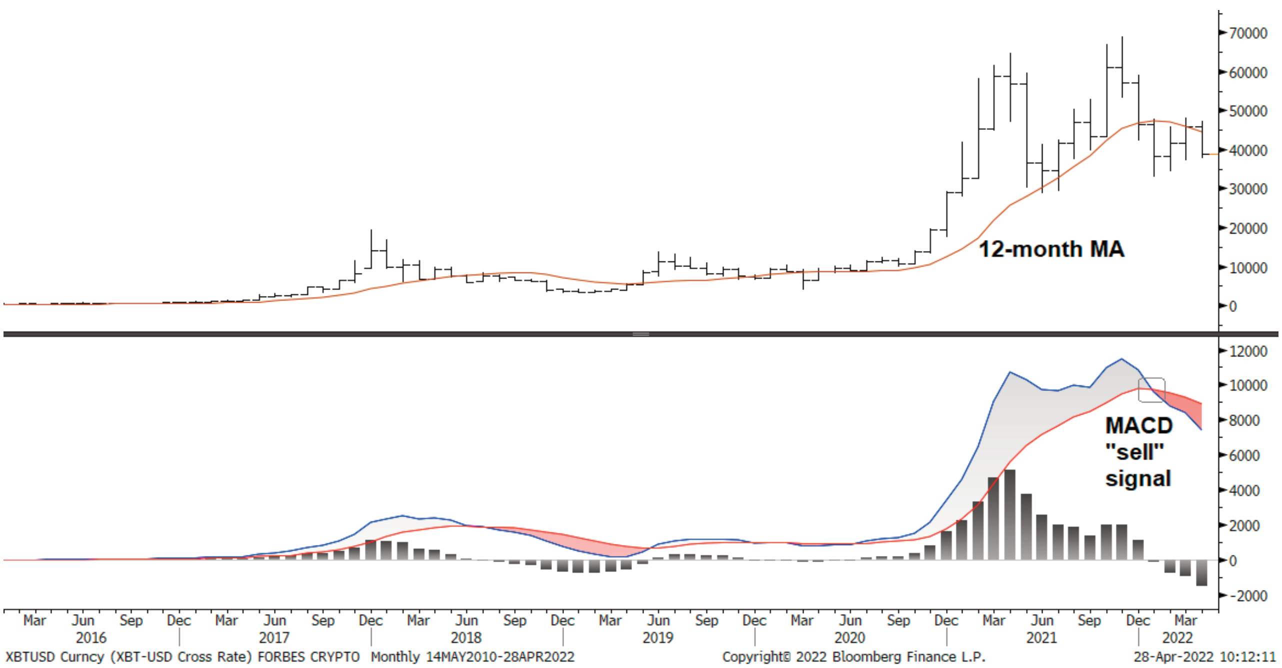
Here is what it means: We want to buy things that are going up and to the right. Very simply, we want to buy things that are going to go higher, and a trend has this inherent momentum to it. Suffice it to say that when something has momentum, you should assume that it will continue to do so. And that's the momentum inherent to trends. So, you genuinely want to buy things that are working their way higher, and you want to sell things that are in downtrend or working their way lower. That is trend following. We have indicators to understand if those trends are still strong. And the indicators tend to be based on moving averages of price, including the MACD, are basically look backs using historical prices.

What we've found is that some of the indicators that are derived from them can really help isolate important shifts and trends. And not only do we want to buy securities that are going up, but we also want to know when to sell them. The indicators can help us know when those trends are shifting.

Here is an example using **bitcoin (BTC)** on the monthly chart. Bitcoin has suffered a loss of long-term upside momentum according to the monthly MACD indicator, which crossed over in a "sell" signal in January. The indicator has an inherent lag to it, but it is designed to identify major shifts in trend. The last "buy" signal occurred in July 2020 and was followed by a strong up move.

FORBES: What are some of the other buckets?
STOCKTON: For the overbought/oversold piece of it, we tend to gravitate towards the stochastic oscillator. Here the goal is to look at where security is closing relative to a high/low range to see where it has been over that period. If it continually closes near the high end of that range, it supposedly gets more overbought–talk about an overused word; same with the word oversold. I would say overbought and oversold are almost misnomers and that, overbought isn't necessarily a bad thing. When something is overbought, it is a reflection of momentum. And there's a reading based on the stochastic oscillator that is an actual overbought reading. And it's an oscillator between zero and 100%. Above 80% is overbought, and we don't mind that. In fact, we sort of like to see something overbought above 80%. What we don't like to see in terms of following a trend or an uptrend

Bitcoin Monthly Price With MACD Indicator



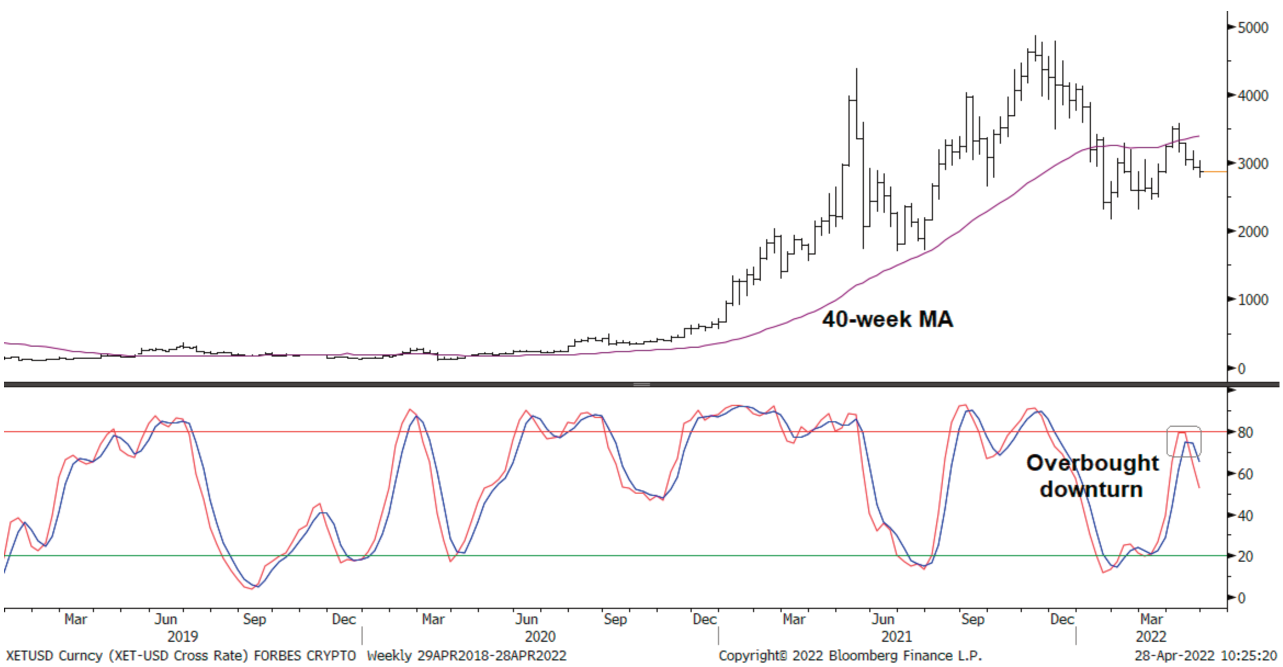
is that reversal back down. So, it's when that overbought reading gives way to a downtick or a downturn, that's when we feel we have some kind of sell signal. We rely on this stochastic oscillator to help us understand when an overbought reading is finally taking its toll on price (and vice versa) and to help us identify good entry points in stocks or securities that had been trending lower. Of course, we have a lot of people watching, as an example, bitcoin or high growth stocks, for some kind of turnaround. In those cases, they want to know if this downtrend that we've seen is at the point where it's oversold enough that it's going to turn the corner. We can use this stochastic oscillator to get us to that answer in a way that is not our opinion, it's just a reflection of what this mathematical gauge is telling us.

Here is an example (see chart) of the stochastic oscillator using **ether (ETH).** Ether has made a lower high associated with a downturn in the weekly stochastic oscillator from overbought territory above 80%. This tends to be a setback with a duration of several weeks as it pertains to the weekly bar chart. Ether was oversold as recently as March, when risk assets bottomed, but the rally was fleeting. We see upturns and downturns in the stochastics as catalysts.

FORBES: What happens if you get mixed signals?

STOCKTON: There's a degree of subjectivity depending on the state of the market, such as whether it's a trending market or a sideways market. In a trending market, you should give more weight to momentum gauges, trend following gauges and moving average based

Ether Weekly Price With Stochastic Oscillator



gauges. A range bound environment, which is where an oscillating measure like the market breadth measure or the stochastic oscillator, will be a little bit more valuable.

FORBES: The crypto market can be fragmented. How do you make sure that you are looking at accurate prices?
STOCKTON: That's a good question. I always like to review what most people are looking at, such as a mainstream exchange. And honestly, usually, the first thing that you pull up, if you were to type in a ticker, is usually the primary exchange on which this instrument is traded. We primarily use Coinbase for bitcoin and ether.

FORBES: The transparency of blockchains has led to an explosion of technical indicators that are available to traders. Do you use any or do you just focus on price?
STOCKTON: We just focus on price. And that's across the board for all asset classes, not just cryptocurrencies. We're interested in reading about things like these emerging trends because they also help you make an informed decision. It's not to say we don't agree with using that as an input. It's just not really what our expertise is. One reason that the equity market is great for us is because there's so much data around it. You get not just price data, but you also get what we call market internals. Market participation/sentiment can be measured either as an investor poll, like how you feel or it can be like a transactional gauge of how people are positioned like using the volatility index or put call ratios. We have this abundance of data for these market internals for the equity market, just because of how long it's been around, in part. We don't yet have the same level of price history for cryptocurrencies, but we also don't have all these data points that we would consider to be market internals. And it would be really helpful if we did.

FORBES: I'm sure you've seen some of the criticisms of technical analysis when it comes to crypto, such as the challenges presented by such a shallow pool of data. How do you adapt to this?
STOCKTON: The good news about the short history of bitcoin and others is that we've actually had some cyclicality already within that context. I call it time compression; the moves that used to take six months now take two months, and then those that take two months run their course in two weeks. I think the more price history, the better. But as long as you're capturing different types of environments you can still build models around it. And you can still trust your indicators if you have enough signals to analyze. The technical indicators, at least the ones we use, should theoretically carry over to anything that has a price and liquidity. There's definitely going to be nuances or maybe a certain timeframe just matters a bit more for one security than the next, but overall, you should see that transference of the methodology be pretty seamless, especially bitcoin and ether, obviously, like deep liquid markets. Others should still carry over pretty equally unless liquidity is so thin that you see a chart that has a lot of gaps on it, not just a gap up in response to news, because that's kind of normal at times, but gaps throughout a trend as well.

FORBES: I'm sure you're aware of wash trading and other ways that people try to manipulate the markets. How do you try to account for that, especially for assets that might be a

little less known and less trustworthy that trade primarily on exchanges that aren't necessarily based in the U.S. or have strong regulatory credentials?
STOCKTON: That would be concerning if we're looking at something that we don't trust. We would probably avoid that at all costs if we can. The price is the price. If the volumes are strong enough to move the price, we care about that. And as mentioned, we're not really looking at volumes as much anyway.

FORBES: It is impossible for someone to be right 100% of the time. I'm curious if you have any sense of what your success rate is or if you find your predictions in crypto being more or less accurate than in traditional markets?
STOCKTON: I don't have a way to measure my accuracy ratio, per se, because I've always been a publishing research analyst, money manager until very recently. So now, as you know, as a money manager, we have a way to track records. The company recently launched the **Fairlead Tactical Sector ETF** (**TACK**) that tracks technical trends across asset classes. But what you hope is that people will subscribe to your research and follow your calls if you're right, more often than not.

We will be wrong at times, but we'd like to think that we don't stay wrong for very long because the indicators don't let us. The indicators will keep you honest. We don't try to be ultra-predictive, but rather just keep people on the right side of trends, give them some risk metrics to watch and some objectives, perhaps based on the current action, talk about catalysts, etc. We're not saying we think bitcoin will be at price X by year end—we don't add value that way or have that crystal ball. But when people can follow the views in a consistent manner, that's where the real benefit can be.

> “We don't try to be ultra-predictive, but rather keep people on the right side of trends, give them some risk metrics to watch and some objectives, perhaps based on the current action

FORBES: Finally, a lot of people reading this will probably be interested in how they can learn more about technical trading. What books or courses would you recommend for those looking to dive in deeper?
STOCKTON: I always recommend people explore the CMT program. It's our version of the CFA program, and it stands for chartered market technician. It takes three exams to get the designation, but even for those that are not at all interested in getting their CMT designation, the coursework or the study guides are valuable. On top of that, it's just reading a couple of the foundational textbooks. I liked *Financial Analysis Explained and Technical Analysis of Financial Markets.*

FORBES: Thank you.

Building Blocks/ What Rights Come With Your NFT?

As non-fungible tokens (NFTs) increasingly become mainstream, investors are finding out that not every collection is created equally. And I'm not just talking about which NFTs sell for six- or seven-figure sums, while others get relegated to the dustbin or orphan block of history.

I'm referring to the rights and privileges that accompany the associated NFTs. For instance, while there are some collections that might give the owners full rights to commercialize their assets, many others restrict what a person can and cannot do with their holdings. This is not a novel concept, as anybody who watches a football game on Sundays is probably familiar with the boilerplate message that says depictions of the game cannot be transmitted without the expressed written consent of the National Football League and the network broadcasting the event. In fact, for you fans of *Family Guy* out there, Peter Griffin comically got in trouble for this very issue in a past episode when he tried to record a Monday Night football game.

While many of you may not have any intentions right now of opening up a t-shirt store with pictures of your Bored or Mutant Apes, these conditions still matter because they can directly impact the demand, and value, of certain collections.

To dive deeper into these important issues, I spoke with an expert on the subject, Stuart Levi, Partner, Blockchains and Digital Assets; Intellectual Property and Technology at Skadden, Arps, Slate, Meagher & Flom LLP and Affiliates. Below is an abbreviated transcript of our conversation.

FORBES: What are the types of law most applicable to NFTs from a commercialization point of view? Can you explain the difference between trademarks and copyrights?

STUART LEVI: The two most applicable laws are copyright and trademark. Copyright law is designed to protect original works of authorship. We normally associate that with creative works such as books, still images, video and music. Trademark law protects words, logos or short phrases that designate a source of origin.

FORBES: How do these apply to NFTs?
LEVI: Trademark issues have always applied in the Web3 space because, as with any industry, you have brands looking to protect the rights in their names and logos. Copyright law did not get as much attention until NFTs came along. That is because the digital works associated with NFTs are almost always copyrightable works of authorship.

FORBES: What rights come with buying an NFT?
LEVI: In general, unless there is a formal grant of rights, you don't get any rights in the digital work associated with the NFT. To date, three models have emerged. One model is that when you buy an NFT you don't get any intellectual property rights in the underlying work, other than the right to use it for your own personal, noncommercial use. NBA TopShot (see table page 24) is a good example. And that is consistent with the way digital collectibles and artworks have traditionally been sold. A second model has emerged over the past year or so, particularly with profile picture NFTs, based on the idea that not granting commercial rights is contrary to the ethos of Web3 and contrary to the concept of decentralization, where the community is in it together. Those projects grant commercial rights to the artwork you own. Some examples are Bored Apes and Doodles. Those grant you commercial rights in the artwork of the NFT you purchased, meaning that

you have the right to make and sell products like T-shirts, mugs and posters using the artwork that you have.

However, commercial rights come in a lot of different forms. Some projects might limit the scope of your commercial rights. So maybe I can make and sell physical merchandise, but I can't, for example, turn it into a streaming service or create video content. Some projects limit how much money you can earn from your commercialization efforts. So they kept that to let's say $100,000 per year (Meebits and Doodles have such a limit). The third model is to put the artwork in the public domain, meaning it is free for anyone to use. (NounsDAO is an example).

FORBES: Do these rights transfer during resales?
LEVI: The only way that rights are conveyed is if you have an agreement that conveys those rights. Silence in the world of intellectual property means that no rights were conveyed. In a primary sale, you very often have to click on an "I agree" button. But very often those terms don't travel with the NFT, meaning that with respect to secondary sales I can purchase an NFT, but the rights associated with that NFT were not presented to me and I never agreed to them. So, it leaves you in a little bit of an unknown space as to what rights you have.

FORBES: What advice (note this is not legal advice) do you have to purchasers looking to buy NFTs?
LEVI: The reality today is that every project offers different commercial rights, with some not offering any. Most NFT projects and marketplaces have terms and conditions that contain a variety of different limitations, restrictions and assumptions of risk, and a purchaser should read those carefully; they're there for a reason. F

Top Collections	Developer/IP Owner	NFT Owners' Rights
Axie Infinity	Sky Mavis	Owners can download or print a copy of any portion of the related content solely for personal use but not monetize it. They also get limited permission to create fan-art, which must clearly state so without using official Axie assets such as logos.
CryptoPunks Bored Ape Yacht Club Mutant Ape Yacht Club	Yuga Labs	Owners can use, copy and display the featured art as well as use the art to produce and sell merchandise products.
NBA Top Shot	Dapper Labs	Owners can use, copy and display the art for their purchased moments solely for personal use and are not allowed to monetize it.

Worth Reading

Edward Snowden Revealed As Key Participant In Mysterious Ceremony Creating $2 Billion Anonymous Cryptocurrency
April 27, 2022, Forbes, Michael del Castillo

Hacked Crypto Startups Get Capital Infusions From Investors
April 27, 2022, The Wall Street Journal, David Uberti

What You Should Know Before Investing In Fidelity's Bitcoin Retirement Accounts April 26, 2022, Forbes, Steven Ehrlich

FTX/Defi: If It Looks Like A Duck And Quacks Like A Duck...
April 25, 2022, Financial Times, Jamie Powell

Polygon Pledges $100 Million To Bootstrap Growth
April 22, 2022, Forbes, Steven Ehrlich

The Complicated Politics Of Crypto And Web3
April 16, The Economist

Why Jack Dorsey's First-Tweet NFT Plummeted 99% In Value In A Year April 14, 2022, Forbes, Jeff Kauflin

Crypto Helps Write, And Pass, Its Own Agenda In State Capitols
April 10, 2022, The New York Times, Eric Lipton, David Yaffe-Bellany

Blockchain & Financial Markets: Will Computers Push Out Brokers?
April 5, 2022, Financial Times, Gary Silverman, Philip Stafford

Ben McKenzie Would Like A Word With The Crypto Bros
March 31, 2022, The New York Times, David Yaffe-Bellany