LUMOS

JUNE2022

Research Round-Up

The recent past, present, and future of bitcoin and digital asset markets.

LumosDigital Assets Research

Market Commentary

Data Source: Coin Metrics as of 05/31/2022.

The price of bitcoin has fallen roughly 26% since the start of the month touching a low of $25,500 on the 11th and then trading tightly between $29,000 and $31,000. Although the price action may not be as exciting this month, we continue to see other indicators of Bitcoin's health and adoption. While the price of the general market has been on a downward trend, Bitcoin has been recovering some of its turf in terms of market dominance. Bitcoin's market cap dominance as a percentage of total digital assets has reached its highest level since October of 2021, which is now north of 45%. See our longer market commentary in the insights section.

News & Editorial

A curated list of the most relevant news and developments along with our two Sats.

Federal Reserve Economic Well-Being Report Highlights Contrast in Cryptocurrency Uses Based on Financial Profile

The Federal Reserve recently released an Economic Well-Being of U.S. Households in 2021 report inclusive of statistics relative to cryptocurrency usage and adoption. The report highlights that in 2021, 12% of adults held or used cryptocurrencies in the prior year, 11% of adults held cryptocurrency as an investment, while only 2% of adults used cryptocurrency to buy something or make a payment in the prior 12 months, and 1% used it to send money to friends or family.

The report cites that those who held cryptocurrency for investment purposes had higher incomes, most had a traditional banking relationship, and had other retirement savings. In contrast, about 6 in 10 adults who used cryptocurrencies for transactions had an income of less than $50,000 and only 24% of transactional users had an income of more than $100,000. Thirteen percent of those using cryptocurrency transactionally did not have access to a bank account compared to 6% of adults who do not use cryptocurrency.

Our Two Sats:

This report shines a unique light and perspective on the different use cases of cryptocurrencies and the contrasting financial profiles of individuals looking to use them. It is interesting to note that higher income households typically approach cryptocurrency use and adoption from an investing lens whereas lower income households usually seek to use cryptocurrency for transactional and payment purposes.

This dichotomy in approach shows that cryptocurrencies are still developing and finding their practical and investment use cases, and that individuals can use cryptocurrencies based on whatever uses best fit their unique financial situations. It is also important to note that cryptocurrency users are more likely to use cryptocurrencies transactionally when they do not have access to a bank account or credit card, highlighting the potential for these digital currencies to provide real use to individuals and households that do not have access to these payment channels. While the huge upside potential of cryptocurrencies create enticing investment opportunities, we are also seeing the continued emergence of the practical value of these cryptocurrencies as payment options.

Financial Freedom Act Proposed by Alabama Senator Would Ensure Bitcoin can be Offered in 401(k)

Senator Tommy Tuberville of Alabama has proposed a bill in response to Senator Elizabeth Warren and the Department of Labor’s attempt to curtail bitcoin allocations in self-directed 401(k) investment plans. The Financial Freedom Act would ensure that bitcoin can be offered in 401(k) plans by prohibiting what types of investments a self-directed 401(k) retirement plan can invest in. Tuberville emphasized the importance of having the freedom to choose investment allocations, stating “Whether or not you believe in the long-term economic prospects of cryptocurrency, the choice of what you invest your retirement savings in should be yours – not that of the government.”

In support of Tuberville’s Senate bill, Florida representative Byron Donalds introduced the Financial Freedom Act into the United States House of Representatives. This bill was introduced into the House to function as a companion to the Senate bill.

Our Two Sats:

These proposed bills emphasize the desire from individuals to be able to choose their 401(k) allocations freely, while also highlighting the growing demand and adoption of bitcoin in individual portfolios. As demand continues to grow, it is encouraging to see proposed legislation in place that will support increased adoption and provide onramps rather than obstacles for individuals to make their own investment decisions. Enabling bitcoin in 401(k) plans could help build confidence in the asset class and potentially impact long-term price appreciation. These proposals also highlight endorsements from Congress and state representatives for larger financial services firms as they look to continue rolling out offerings that will meet demand from individuals and institutions looking for different ways to get exposure to bitcoin.

Coinbase Takes out the First Bitcoin-Backed Loan from Goldman Sachs

Coinbase, the largest crypto exchange in the United States, has taken out the first bitcoin-backed loan from investment bank Goldman Sachs. The loan is collateralized by some of the 4,487 bitcoin from Coinbase's holdings, worth around $140 million at the time of writing. The loan features a unique 24-hour risk management structure but requires Coinbase to add to its bitcoin collateral if the price of bitcoin falls too low. Goldman Sachs has $2.5 trillion in assets under management as of 2021, and this announcement further solidifies the increased interest in cryptocurrencies from Wall Street Institutions. In March of this year, Goldman executed their first over-the-counter crypto transaction with Galaxy Digital, and additionally now boasts its own in-house digital assets team.

This development comes on the heels of multi trillion-dollar asset management firm Blackrock announcing the launch of its blockchain-focused exchange-traded fund. Blackrock also recently announced involvement in a $400M funding round and partnership with Circle who is the principal operator of the USDC stablecoin and a major developer in the peer-to-peer payment ecosystem.

Our Two Sats:

This is certainly exciting news as it further emphasizes the growing synergies of the digital asset and traditional finance ecosystems. This announcement highlights the potential for bitcoin to be utilized as a collateralized asset, while also underpinning the value and opportunities that traditional Wall Street firms are seeing in the budding digital asset space. As other traditional asset managers, such as Blackrock, look to get involved in the space, it is not unreasonable to expect more TradFi institutions to pursue opportunities in this space more aggressively as it continues to gain more traction and legitimacy. It is encouraging to see the collaboration between the crypto and traditional finance world, and as more institutions look to get involved, the joint efforts of these establishments will help push this emerging asset class forward.

Brazilian Stock Exchange Launching Bitcoin and Ethereum Futures

The Brazilian Stock Exchange, also known as B3, has announced plans to launch a product supporting the trading of bitcoin and ether futures. The product will be launched within the next 6 months. As of today, Brazilian institutional and retail investors can trade 11 ETFs with varying degrees of exposure to cryptocurrencies, with more than 25 investment funds approved by the Brazilian Securities and Exchange Commission. This is in addition to other products B3 plans to launch in 2022 including platforms for asset tokenization and cryptocurrency trading and custody.

NASDAQ has also recently partnered with the largest investment brokerage in Brazil to launch a cryptocurrency exchange in the country. The exchange will launch in the second quarter of 2022 and will be fully integrated into the XP ecosystem, which currently has more than 3.5 million clients and $168 billion in assets under custody.

Our Two Sats:

These announcements coming out of Brazil are encouraging and present an opportunity for increased global adoption and availability of digital assets to those seeking ways to get involved. Brazil has recently taken multiple steps into the digital asset space – including adding bitcoin and ether trading futures on their native stock exchange and partnering with NASDAQ to bring a more direct form of cryptocurrency trading to the nation. All this news comes on top of a recent announcement that Nubank, the largest digital bank in Brazil and Latin America, has partnered with Paxos to allow its customers to buy, sell, and custody cryptocurrencies directly. These announcements illuminate the growing positive sentiment of digital asset adoption globally and paint a clear long-term picture that innovation and adoption in the space is only just beginning, even when markets are down. As we feel the effects of downward price activity in the markets, these developments serve to reinforce that the entire digital asset space is nascent and developing, and many countries are looking for ways to innovate in the space, not belittle it.

News Quick Hits

The SEC is doubling down on crypto regulation by expanding the Crypto Assets and Cyber Unit with 20 new hires.

Bitcoin sets new hash rate record while celebrating halfway point to the next halving event.

MicroStrategy CEO Michael Saylor says company will never sell their bitcoin, will explore future yield generating opportunities on bitcoin holdings.

Ether transaction volumes hit highest point since January.

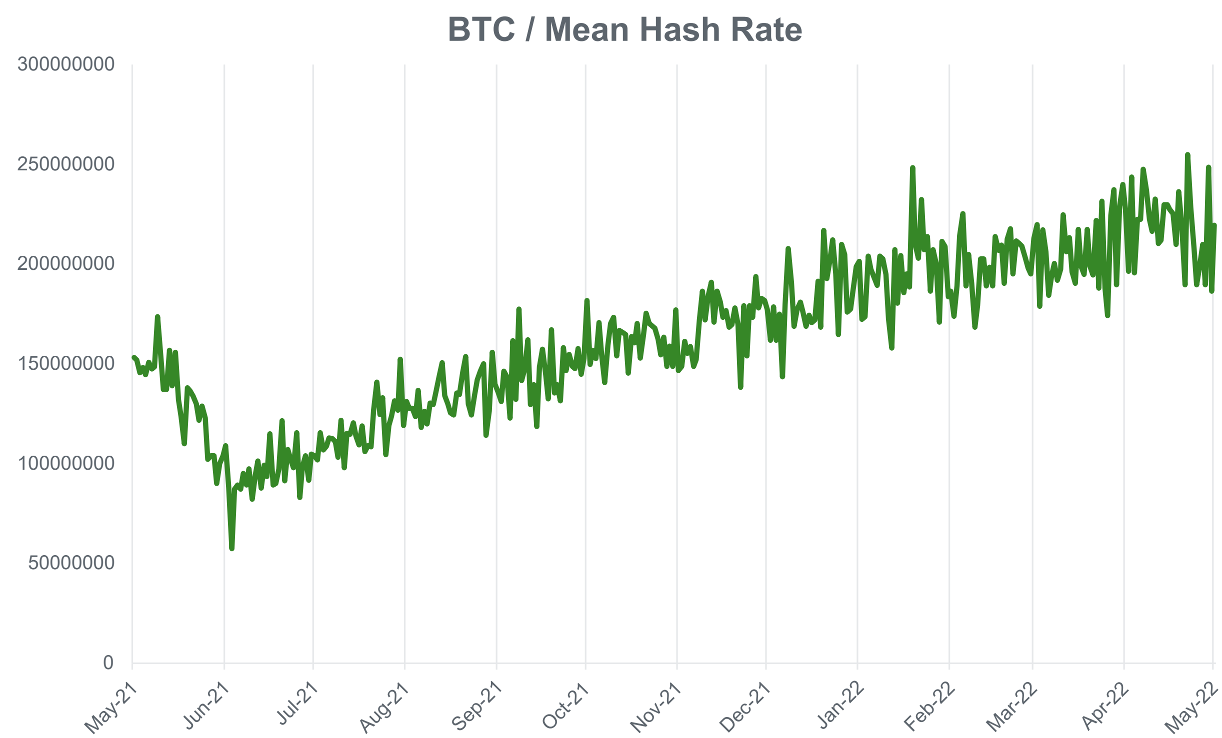
Shanghai court rules that bitcoin is virtual property, subject to property rights.

Bitcoin mining difficulty records all-time high of 31.251 trillion, subsequently drops sharply.

PizzaDAO celebrates Bitcoin Pizza Day with 100 parties worldwide.

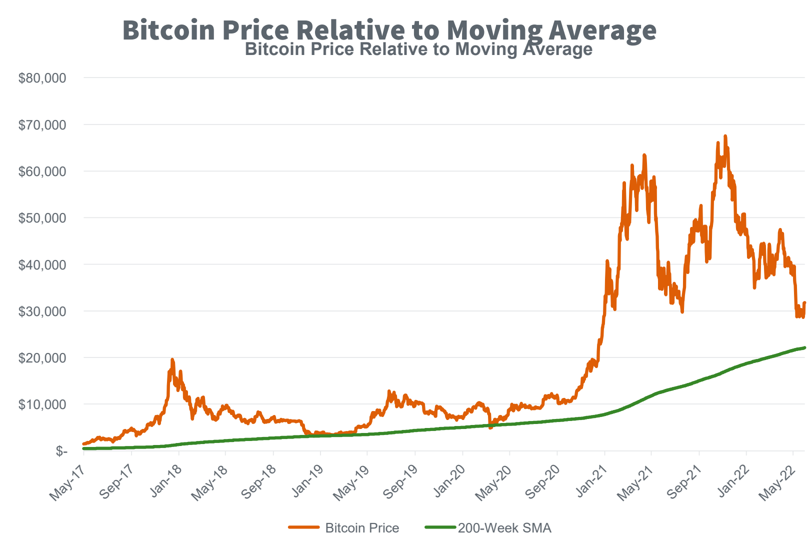
Data to Watch

Data we are currently keeping an eye on and our commentary.



Data Source: Coin Metrics as of 05/26/2022.

The new all-time high hash rate came just 5 days after bitcoin's lowest price for May. Hash rate is a key security metric of the network. Even with the lower price the network security continues to climb higher. It wouldn't be surprising to see the hash rate start slowing as it becomes unprofitable for older mining rigs to continue to mine as prices fall. Still, the overall level and trend suggest the mining ecosystem remains alive and well.

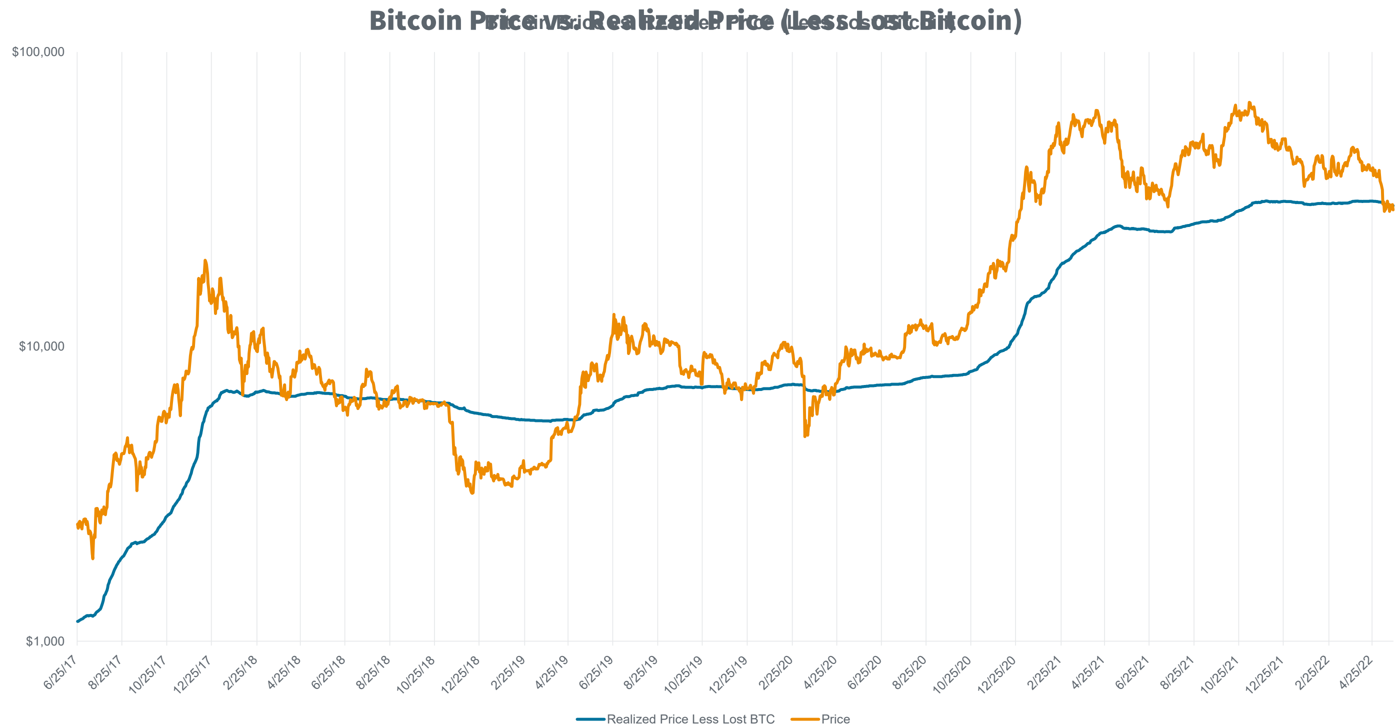


Data Source: Coin Metrics as of 05/31/2022.

An asset's simple moving average (SMA) is a common indicator used to predict market trends. Instead of the normal 200-Day moving average we have chosen to use the 200-Week moving average. The SMA acts as a support or resistance in terms of where we might expect the price to move. If you've been following market sentiment, you're probably aware that the overall market is bearish. According to the 200-Day moving average we have been in a bearish market since December 27th of 2021.

Historically, bitcoin has very rarely traded below the 200-Week moving average as seen above. This might sound like a technical analysis trick, but the economic reasoning that could be behind this is the fact that bitcoin goes through four-year halving cycles, which is roughly equivalent to 200 weeks.

We went a step further to see how many days the price of bitcoin traded below its 200-Week SMA and since May of 2014 it has only traded below this metric for a total of thirty-seven days. That's roughly 1.3% of an eight-year time period. Using this metric, it shows a potential bottom of $22,000, another 30% drop from today's prices.



Data Source: Coin Metrics as of 05/31/2022.

Finally, we are also keeping a close eye on bitcoin's price compared to its "realized price." As a reminder, the realized price is the average price of all bitcoin recorded at the time it last moved. While a transaction or movement of coins is not necessarily a trade, it does provide a rough approximation of "total cost basis" and where market participants sit in aggregate in terms of whether their holdings are in profit or loss. However, we added a slight twist to this metric in the above chart where we removed the total supply of bitcoin considered lost, which we conservatively estimate at approximately 4 million coins. Based on this metric, bitcoin is currently trading near its adjusted realized price of $30,000. While past performance is no guarantee of future performance, as you can see bitcoin has only traded below its realized price for short periods of time.

Insights & Education

A monthly long-form section where we provide a LumosDigital Asset's perspective or educational piece.

This month we are dedicating our insights and education section to focus on the recent volatility and events. We are framing the past month into three general sections of: where we have been, where we are now, and where we might be going from here.

Where we have been: The LUNA-UST Death Spiral

The biggest story in digital asset markets over the past month occurred at the start of May with the UST stablecoin losing its $1 price target, which subsequently drove the demise of one of the largest ecosystems in crypto worth over $60 billion at its peak.

To best explain what actually happened, one must begin with an understanding of the dynamics associated with the TERRA-LUNA-UST Ecosystem. The UST stablecoin existed at the center of the Terra ecosystem and was created to offer a decentralized alternative to assets that require clear trust in a counterparty (like USDC or USDT). UST was designed to be algorithmic and focus on price stability at its $1 price peg, rather than to back the stablecoin 1 for 1 with assets. Creation and redemption of UST requires LUNA minting and burning. $1 of LUNA could be burned to mint 1 UST, and 1 UST could be burned to mint $1 LUNA. The problem in recent weeks came from a mass exodus of capital which the primary UST-LUNA burn and mint mechanism simply could not handle on its own. The maximum daily amount of UST on-chain redemptions for LUNA was around $200 million, which forced the secondary market to see massive exits at a discount. Understanding the secondary market is key to understanding why Terra could not control its price peg once it came under stress.

A visual representation of the LUNA-UST primary market mechanism.

UST's secondary market was arguably in a vulnerable transition state, which had grand plans to be further bolstered in the coming months. There were two main defense mechanisms that Terra had planned to grow over the coming weeks and months. The first is a large liquidity pool on Curve (known as the 4-Pool) that was recently setup to provide billions in liquidity to help stabilize UST. The other was a last line of defense that Terra had recently established: a stockpile of bitcoin reserves. The idea was to use bitcoin, an external asset, to defend their $1 price peg in the case that the LUNA-UST burn and mint, as well as the Curve liquidity pools were not enough of a defense mechanism.

Terra's group tasked with this project, known as the Luna Foundation Guard, acquired over 80,000 bitcoin which made them a top 10 known holder of the asset. An automated mechanism to swap UST for BTC wasn't established, but various governance proposals were in the works to have this up and running in the near future. Had it been in place, this story may have played out a bit differently as billions in bitcoin would've been standing guard at 98 or 99 cents in exchange for UST prior to the major fall in UST's price. Instead, the group had to rely on sending this bitcoin to centralized exchanges and market-makers in last ditch efforts to defend the $1 price peg. The goal of this was to simply provide a buyer of secondary market UST through selling BTC and buying UST. In the days following these events the Luna Foundation Guard revealed that essentially all of the bitcoin purchased to defend the UST price peg had been sold in an effort to regain price stability.

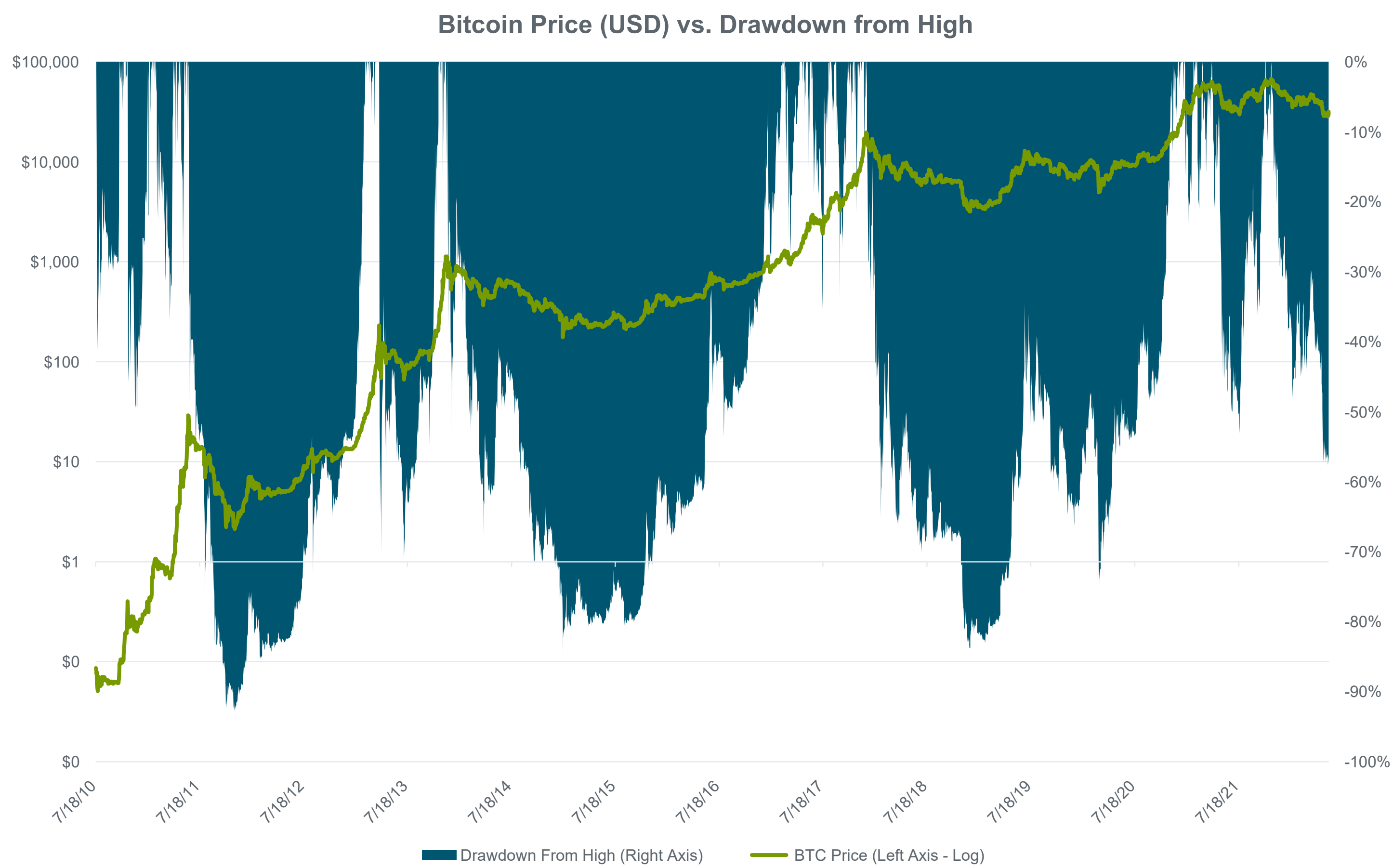
This graphic represents what the plan for the BTC emergency reserve was meant to be.
It was not setup in an automated fashion prior to the recent events.

The Terra ecosystem was clearly in a vulnerable spot given their two plans to bolster UST's peg defense (a larger liquidity pool and automated BTC swapping mechanism) were not yet established. Whether a group of well-informed entities coordinated the exit or a simple bank run took place is unclear, but it ultimately doesn't matter at this point – the project failed and has been dismantled and forked.

Bitcoin held relatively strong through these events, despite one of the largest buyers of bitcoin unloading all their assets in just a few short days. This event highlights one of the major themes that we have echoed regarding the digital asset space – a major layer one ecosystem, the third largest stablecoin, which combined to represent a top five ecosystem evaporated nearly overnight and bitcoin continued to churn out blocks roughly every 10 minutes, as advertised. We believe that bitcoin's tradeoffs, hesitant to innovate and focused on stability, are a reason why it is a relatively less risky project than effectively every other digital asset that exists. This isn't to say that innovation does not matter or that other projects cannot find success, but rather that there are likely to be many more projects that fail alongside only a handful of other successful projects across the digital asset space.

Where are we now?

As of the end of May with bitcoin around $32,000, we are currently in an approximate 50% drawdown from the previous all-time high set last November when bitcoin hit nearly $68,000. This drawdown is slightly improved from the nearly 60% pain point on May 27 when bitcoin traded below $29,000. It certainly ranks as one of the larger drawdowns of bitcoin's history and eclipses the steep (but short-lived) drawdown experienced during the Covid sell-off. However, zooming out, we are still a long way off from the major "winters" experienced in 2019 and 2015 when there were long drawdowns in excess of 80%.

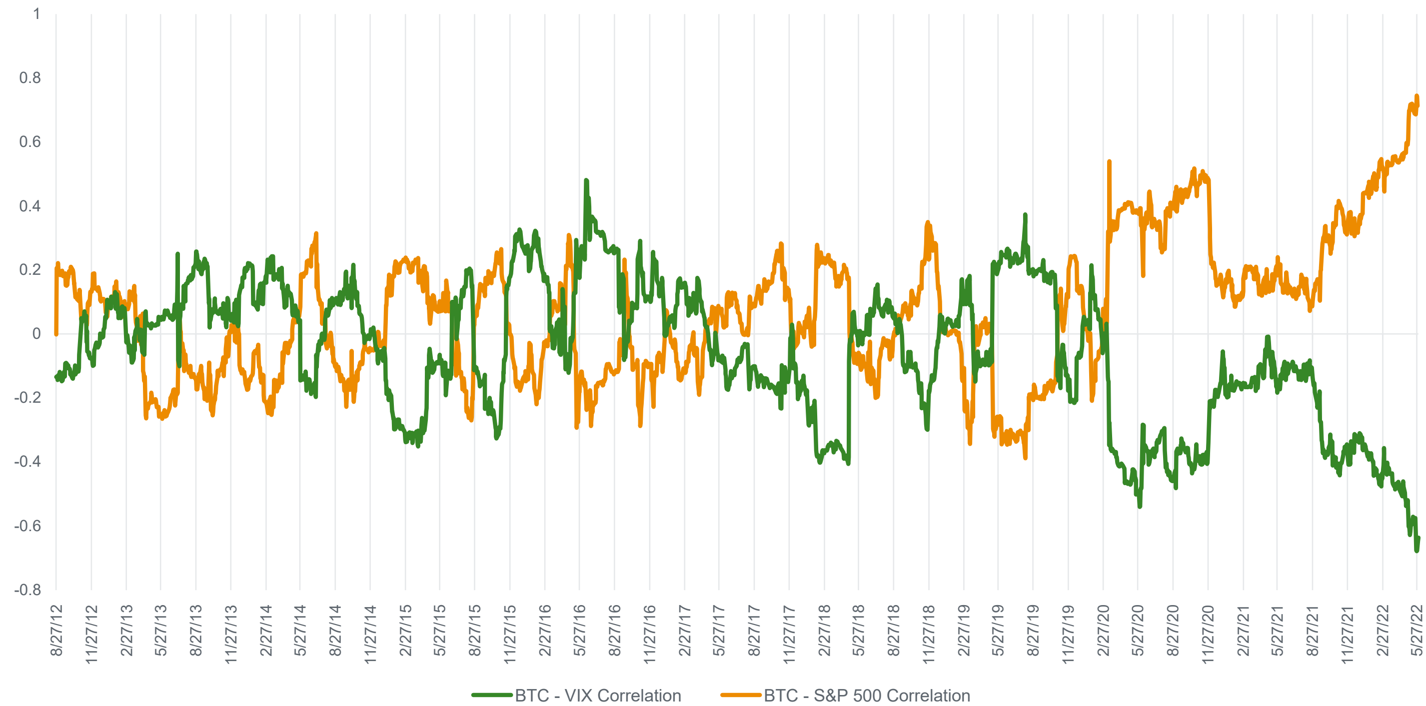


Data Source: Coinmetrics as of 5/30/22 and LumosDigital Assets calculations.

This past month saw a week where bitcoin fell over 25%, a weekly move that was well over two standard deviations. A negative two-sigma move like that has only been seen a handful of times since 2015.

We have previously mentioned bitcoin's increasing correlation to risk assets, particularly equities, and today that correlation has jumped to near 0.8, an all-time high. However, this isn't as surprising as correlations across nearly all asset classes have historically increased in times of high volatility and market stress. As can be seen below, bitcoin's correlation to the S&P 500 has continued to rise while its negative correlation to the VIX continues to increase as well, both to never-before-seen historical levels. As long as the VIX remains elevated, we would expect bitcoin to continue to be highly correlated to equities and other risk assets, increasing the risk of additional drawdowns in the near-to-medium time frame.

Correlation of Bitcoin to S&P 500 and VIX (60-day Correlation)



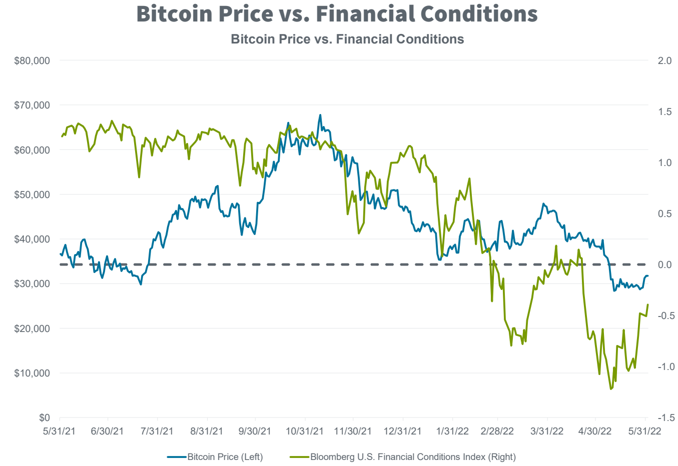
Data Source: Coinmetrics as of 5/30/22.

What do we expect going forward?

Recently, many investors have questioned bitcoin's value propositions of a store of value, uncorrelated asset, and hedge against inflation during this time. Admittedly, if one were only to look at the past few months it would seem bitcoin is failing in this regard. However, this may once again turn out to be a matter of investor time horizon. We believe these core value propositions are ones that will be fulfilled over much longer time frames.

In the current environment, bitcoin continues to respond to financial liquidity conditions. The chart on the right shows one measure of this, the Bloomberg U.S. Financial Conditions Index, an overall index that tracks the level of stress in the U.S. money, bond, and equity markets to help assess the availability and cost of credit. A positive value indicates accommodative or "loose" financial conditions, while a negative reading indicates tighter conditions.

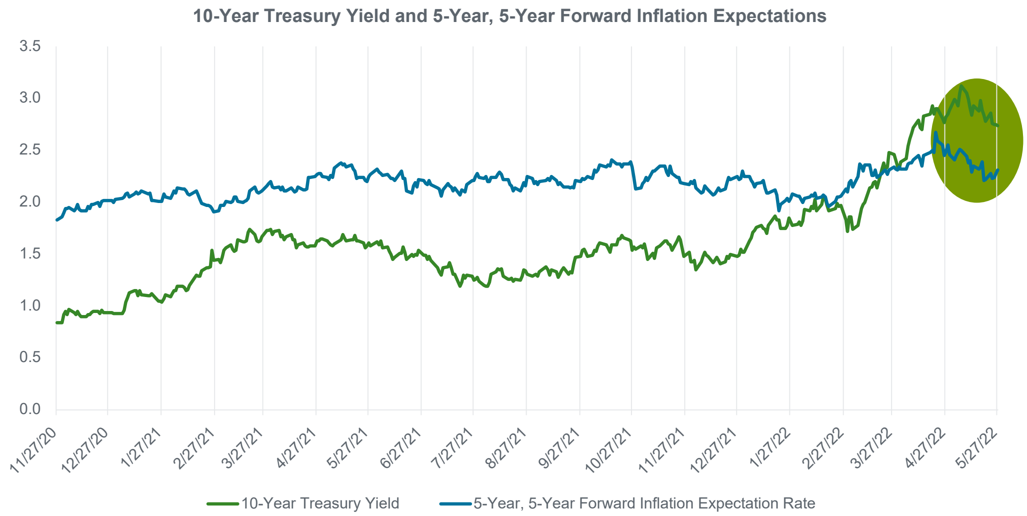
Bitcoin Price vs. Financial Conditions



Data Source: Bloomberg as of 5/30/22.

As can be seen on the right, bitcoin's price has declined along with the monetary conditions as the Federal Reserve continues to tighten and market participants anticipate more tightening and the ending of quantitative easing.

The question is what next? We expect the answer to this question will be driven by what central banks and policy makers do over the next six to twelve months. While investors are still expecting rate hikes over the next five consecutive Federal Reserve meetings, the probabilities of the aggressiveness of the hikes have come down over the last month, judging by Fed fund futures per CME Group data. Therefore, market participants are already assuming many hikes, but the real question becomes when the hikes pause or perhaps even reverse.



Data Source: Board of Governors of the Federal Reserve System (US) as of 5/30/22.

Bond yields have taken a bit of a breather after a historic climb up, which may indicate investors expecting less aggression on rate hikes from the Fed, or an economic slowdown or recession. However, given how high inflation continues to run, current real yields still remain deeply negative, and the Fed is facing increasing pressure to tamp down inflation. That said, investors are pricing in a cooling of long-term inflation, as can be seen in the 5-year, 5-year forward inflation expectation rate. This is a measure of expected inflation (on average) over the five-year period that begins five years from today.

In summary, if the Fed and other central banks pull off a "soft landing" by successfully cooling inflation and asset prices, but without sending the general economy into a recession, then we may indeed see continued headwinds for the performance of bitcoin over the near to intermediate-term as investors will shrug it off as both a risk asset and the need to keep it as a store of value in the face of falling inflation.

If however, a hard landing ensues, we would expect the Federal Reserve and other central banks to turn to the one tool at their disposal: injecting more liquidity, in which case we think bitcoin would respond positively. We also think there is a possibility of bitcoin responding positively to a stagflationary environment if growth continues to cool while inflation does not, similar to how we saw gold respond to the last stagflationary environment.

Contributors:

Christopher Kuiper, CFA, Director of Research, LumosDigital Assets

Jack Neureuter, Research Analyst, LumosDigital Assets

Matthew Hogan, Research Analyst, LumosDigital Assets

Daniel Gray, Research Analyst, LumosDigital Assets

The information herein was prepared by LumosDigital Asset Services, LLC and LumosDigital Assets, Ltd. It is for informational purposes only and is not intended to constitute a recommendation, investment advice of any kind, or an offer or the solicitation of an offer to buy or sell securities or other assets. Please perform your own research and consult a qualified advisor to see if digital assets are an appropriate investment option.

Custody and execution of digital assets is provided by LumosDigital Asset Services, LLC, a New York State-chartered, limited liability trust company or LumosDigital Assets, Ltd. LumosDigital Assets, Ltd. is registered with the U.K. Financial Conduct Authority for certain cryptoasset activities under the Money Laundering, Terrorist Financing and Transfer of Funds (Information on the Payer) Regulations 2017. The Financial Ombudsman Service and the Financial Services Compensation Scheme do not apply to the cryptoasset activities carried on by LumosDigital Assets, Ltd.

This information is not intended for distribution to, or use by, any person or entity in any jurisdiction or country where such distribution or use would be contrary to local law or regulation. Persons accessing this information are required to inform themselves about and observe such restrictions.

Digital assets are speculative and highly volatile, can become illiquid at any time, and are for investors with a high-risk tolerance. Investors in digital assets could lose the entire value of their investment. LumosDigital Asset Services, LLC and LumosDigital Assets. Ltd. do not provide tax, legal, investment, or accounting advice. This material is not intended to provide, and should not be relied on, for tax, legal, or accounting advice. Tax laws and regulations are complex and subject to change. You should consult your own tax, legal, and accounting advisors before engaging in any transaction.

Some of this information is forward-looking and is subject to change. Past performance is no guarantee of future results. Investment results cannot be predicted or projected.

LumosDigital Assets and the LumosDigital Assets logo are service marks of LumosLLC.

1033173.3.0