Intro
This past bull run, one of the most common discussions was centered around the idea of ‘institutional adoption’. Many people point towards inflows from banks, hedge funds, and other large money players as a big step towards global adoption of crypto. Coincident with institutional adoption, there must be some level of regulatory guidance to provide the framework for funds to operate. The adoption that ensued was two fold:

1) Hedge funds were massively popular, and unfortunately we saw many blow up over the past month. Banks, asset managers, and family offices created crypto products to offer investors
2) Publicly offered equities in the U.S saw next to no innovation, and the regulatory environment surrounding crypto assets only became more opaque

Today, our narrative report will focus on public equities available to investors, and what their impact on crypto as a whole has been. The products vary widely, and we will attempt to provide sufficient information and detail into where things currently stand, and what the future holds.

Bitcoin Products
Crypto assets available to equity market investors face a massive inefficiency due to the lack of a spot Bitcoin ETF. There are multiple securities that work around this restriction, namely the Grayscale Bitcoin Trust ($GBTC) and ProShares Futures ETF ($BITO). We’ll first take a look at Grayscale’s product, how it differs from that of a spot ETF, and why it has been so critical to the market turmoil this past cycle.

What is GBTC?
Grayscale is an institutional asset manager that offers a suite of products, namely its Bitcoin Trust. The product's inception was back in September 2013, allowing accredited investors to

access a fund that bought $BTC on behalf of the clients The $GBTC that most of us have access to via traditional brokerage or IRA account is **non-redeemable for the actual bitcoin in the trust**. For direct access to the trust there is a $50,000 minimum investment. Third party company Xapo takes [custody of all Grasycale] bitcoins.

ELI5 on GBTC

- Grayscale has accredited investors (min $50k) deposit into the fund and uses the proceeds to buy bitcoin
- The trust lists the shares on public exchanges to be traded by anyone with a brokerage or individual retirement account (IRAs)
- Shares are meant to track the price of bitcoin, as stated in the fund's investment objective: '*Shares track the BTC market price, less fees and expenses*'
- All shares have a 2% annual management fee

Primer on Public Funds

In order to understand how a 'trust' product is wildly different from a spot ETF, we need to briefly discuss different types of funds that can be offered on public markets.

Closed-End Funds	Open-End Funds
• Money is raised to create a fixed number of shares • Shares are traded on the market • Fund managers can easily use leverage and other less liquid strategies • Capital gains, earnings, and principal is distributed to holders • Can trade at a discount or premium	• Shares are created for an investor who wants to buy on the market • Sellers shares are redeemed for net asset value (NAV) and taken off market • Shares are priced once per day (end of day) • Price is a function of outstanding shares to NAV

Closed-End:

The concept of a closed-end fund trading off of its net asset value is very important. Because the shares are traded across investors and not directly with the fund, there can be a disconnect between the price and NAV. The discount or premium arises due to supply and demand imbalances. Investors may become overly pessimistic about the fund manager due to new information, or the future outlook of the market that is being invested in could have a regulation imminent that makes it less investible.

ETFs:
Finally, we have the most efficient way to access a large pool of assets. Both the above fund types will incur significant management fees: one of the largest sources of income for fund managers. ETFs, however, are simple algorithms meant to track an index. The index can be literally any combination of securities on the public market. Let's look at $SPY, the SPDR ETF that tracks the S&P500.

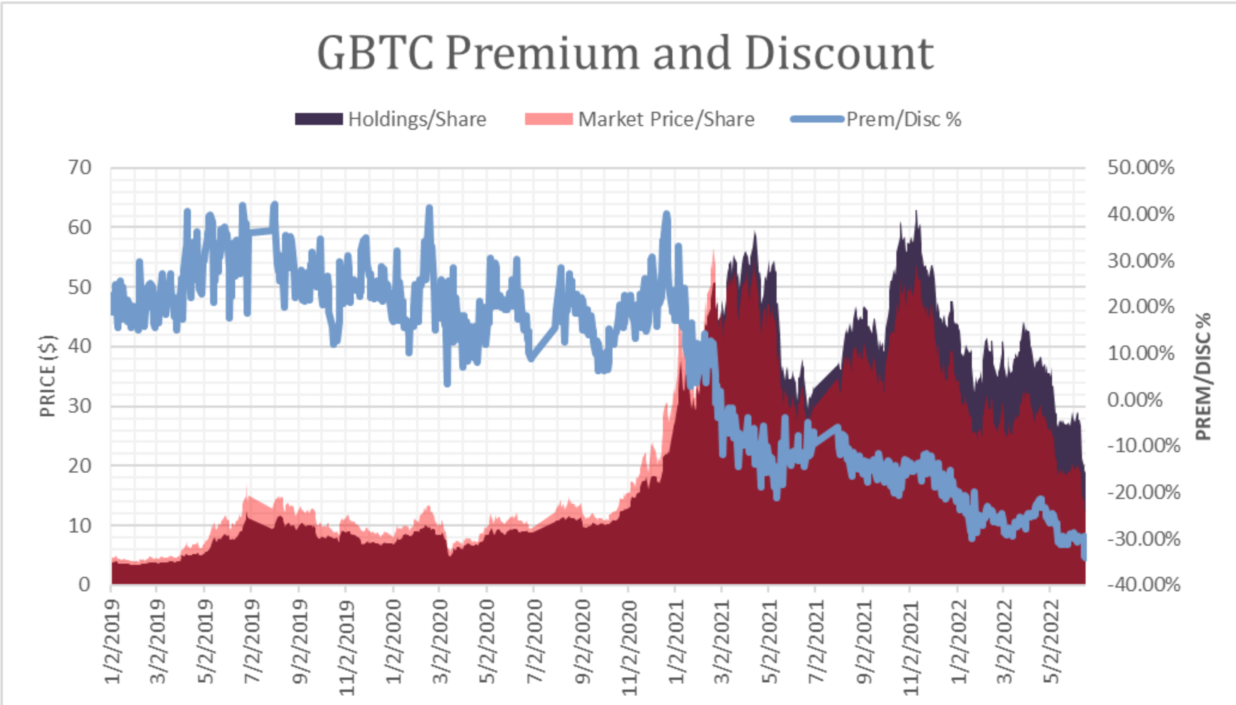
Authorized Participants (APs, typically banks and other market makers) step in to help facilitate trading on the open market. In a step known as the creation unit, APs will buy the proportionate weightings of the S&P's constituents (stocks) and deliver to SPDR in return for a block of equally valued ETF shares, priced at the NAV. Now, SPDR can sell the $SPY shares that track the S&P 500, and APs can sell their shares on the open market.

The reason ETFs are much more efficient than mutual funds is their ability to consistently track NAV. Let's say $SPY is trading at a premium to its NAV. An AP can go onto the market, buy up all the assets that make up the S&P and deliver the blocks to SPDR for shares of the ETF, and sell the shares at a premium, helping to bring down the share price to represent NAV.

How Does the Grayscale Trust Work?
$GBTC behaves similar to a closed end mutual fund. Shares cannot be changed on the open market, they are only available to accredited investors, and require a 6-month holding period. Grayscale gets to decide when shares can be redeemed for their underlying bitcoin, the last time being 2016. Because the outstanding shares change infrequently and cannot be redeemed by the direct investors, price on open market can fluctuate greatly above or below the NAV (which is $BTC) per share.

Cause of the Discount/Premium
Similar to the closed-end funds, the premium and discount of $GBTC is due to supply and demand imbalances on the open market. When $GBTC was one of the only ways to access $BTC exposure in traditional brokerage accounts back in 2015, it was trading at a large premium. At a premium, the fund should issue new shares to meet the demand, and if there is accredited buying pressure, they have all the reason to do so.

However, after lock-up periods people may be ready to realize gains, cut their losses, or have another reason to sell. And although the $GBTC fund saw an all time high of more than $40 billion in AUM during 2021, the premium quickly shifted to par, then discount, and hasn't looked back since.



Data source - Yahoo finance

As shown by the graph, for much of its existence the fund traded at a premium to holdings per share. Below, we will discuss how the premium and discount contributes to different trading strategies.

The Premium Trade

BlockFi, the popular CeDeFi lending platform, earned a lot of income from trading the $GBTC. By contributing crypto assets to the trust, they are able to get restricted shares offered at NAV. Once the trading limitations are lifted, BlockFi can sell those shares at a premium on the market and earn a yield, sometimes the premium was as high as 40%.

Based on the above graph, this premium trade was non-existent all of 2021. Selling the shares at a discount to the holdings per share meant that they were incurring a loss at each sale. BlockFi did not own any more shares of $GBTC as of last fall, but there still was undoubtedly some negative impact on their income statement.

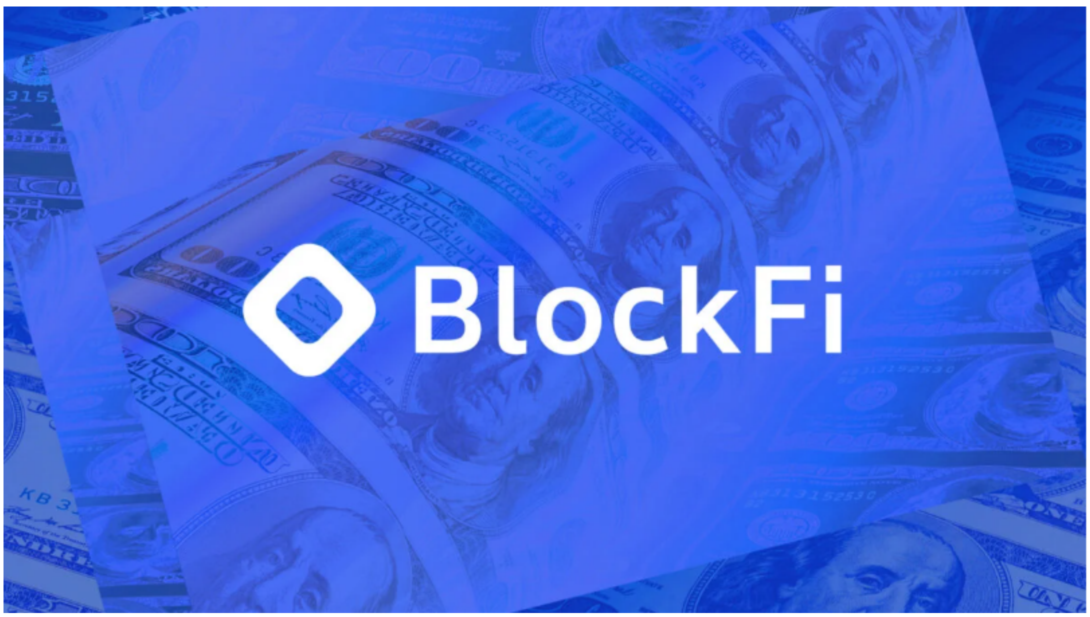
The Convergence Trade

The more popular trade, referred to as the convergence trade, occurs when $GBTC is at a discount to $BTC holdings (nearly all of 2021). In *theory*, the discount should converge. If you are able to buy $BTC at a 37% discount, it sounds like a typical arbitrage. But due to the inability to redeem shares for the underlying asset, there is no tangible reason for the discount to converge.

There becomes some regulatory uncertainty in this scenario on whether Grayscale is allowed to enable redemptions or not. But let's say that they do have the ability to allow redemptions whenever they want. If shares were redeemable, investors could exchange their $.63 in shares for $1 in $BTC. Obviously this would VERY quickly converge to trade at NAV.

The Convergence Contagion: BlockFi, 3AC, and GBTC
The below info taken from The Block and various Twitter sources

BlockFi, a large CeDeFi platform is known to have made an overcollateralized loan, allegedly $1 billion, to 3AC. A report by The Block claims that 33% of the collateralization, **roughly $333 million, was secured by $GBTC.**

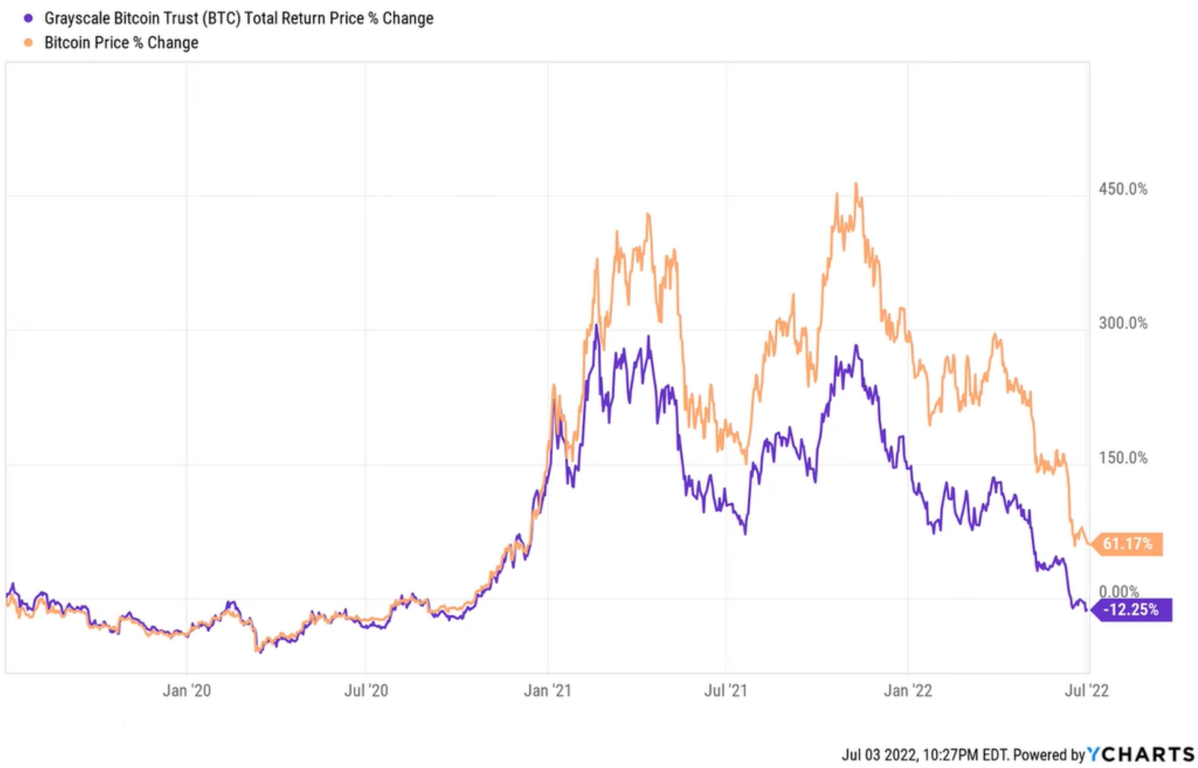


Unfortunately, the $GBTC collateral they accepted and then liquidated, can't be sold on the market without heavily damaging the price. Trading volume has lived under $100 million daily for the past week, so a dump of the 3AC $GBTC shares would just continue to lock in discount losses and put the company in a worse position.

As we are writing this, word just came out that the SEC decided to decline Greyscale's application to become an ETF. Unfortunately, this is the last news we needed as investors. A conversion to an ETF would almost instantly eradicate the discount to NAV (because ETFs can be arbitraged/redeemed continuously). Thus, BlockFi, and other large companies deep underwater with their $GBTC shares, would be able to exit in a much better position than their hands may be forced to do so right now.

That was a lot in a few words, but check out this article by The Block for some more *speculative* details

How does GBTC *Perform?*
It shouldn't come as a surprise, but $GBTC has underperformed $BTC in the long-run. This graph from YCharts shows how much in gains would be eradicated over time if you were to invest in the trust vs. directly in $BTC over the past three years.



Source: [Morningstar]

Indeed, those who invested back in 2016 in their IRAs would not be complaining with a near 4,000% cumulative return. But, I can assure you those with their own custody are a lot happier with roughly 10,000% increase. When the investment objective of the trust is to track the price of $BTC, yet it has consistently traded at a premium or discount and largely underperforms the reference asset, I can't imagine there are many long-term investors entering into a position.

How Can Grayscale Fix the Discount?
The discount on $GBTC has clearly caused some problems in crypto markets, and Grayscale is aware of this. Grayscale *claims* that they are eager to get the discount gap closed by converting $GBTC to a spot ETF. This would undoubtedly solve the problem as ETFs can be arbitraged continuously, the 2% management fee would have to get drastically slashed. It is hard to imagine they are in too much of a hurry to get that done.

The reason that the SEC has not approved this request in the past is due to the ability for price manipulation in spot markets. Given recent volatility, it is very hard to imagine the SEC will choose now to approve the filing, but below, Brett Harrison writes a very rational thread on why this should actually very much so be approved:


Brett Harrison
@Brett_FTX

1/ Next week is the deadline for the SEC to decide whether to reject @Grayscale's application to convert GBTC into an ETF.

Here are the main reasons why it would be inconsistent *not* to approve GBTC and other spot bitcoin ETFs.

6:27 PM · Jun 29, 2022 · Twitter Web App

https://twitter.com/Brett_FTX/status/1542182987583873024

Another way they have tried to help close the gap is by buying up shares on the open market. This increases demand and should help, but at the level of assets they control ($12b as of writing) it becomes negligible and doesn't do a great job.

Conclusion on GBTC

Regardless of your experience in crypto, or comfort holding custody of your own assets, it should be made clear that $GBTC is a very inefficient way to gain $BTC exposure in traditional equity accounts. Grayscale just filed to sue the SEC to re-evaluate their decision on rejecting $GBTC as an ETF (can't imagine how that will turn out well, but Godspeed). We believe that being patient here, despite prices being so far off of highs, before adding to any brokerage position until a **more efficient product is released** will be beneficial.

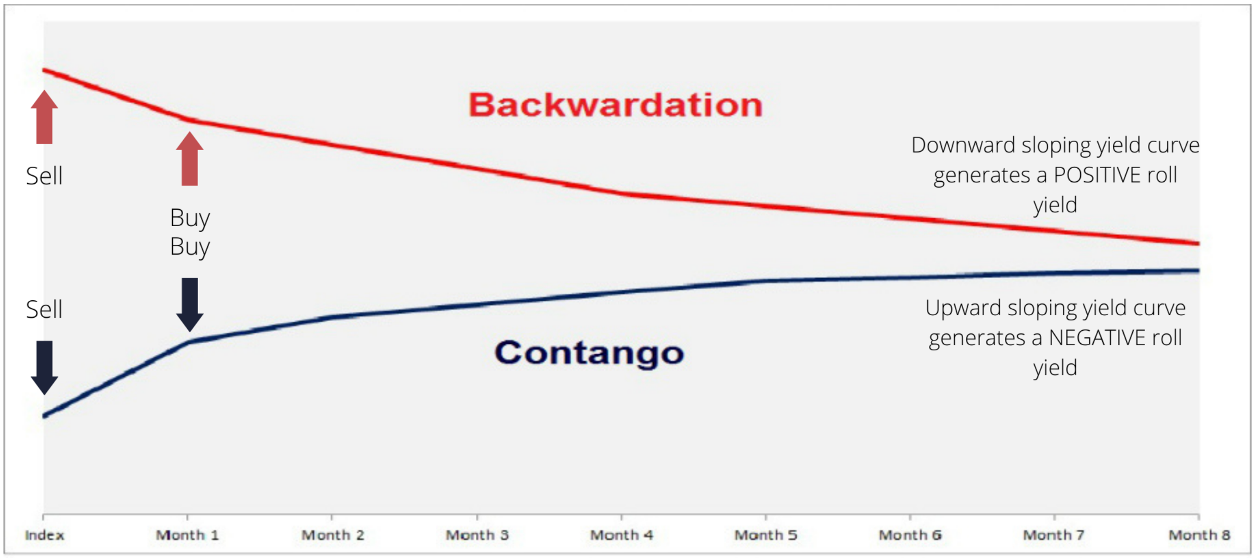
ProShares Futures ETF ($BITO)

ProShares launched its ETF October of last year to track $BTC price based on CME futures. We've covered futures before in detail: they are simply an agreement between two parties to buy or sell an asset at a future date. $BTC futures are cash settled, but $BTC determines the profit or loss. The price at expiration is derived from the Bitcoin Reference Rate (BRR), which is an average of spot prices from Bitstamp, Coinbase, Gemini, itBit, and Kraken.

How $BITO Works

$BITO will buy futures contracts, which means they get the cash settled $BTC at a future date. But to keep it a fluid ETF, they need to sell their near-dated contracts and re-buy the next month contract, neutralizing, but maintaining, their position. This process is known as “rolling” the futures curve.

Rolling the futures curve has massive profit or loss implications, depending on the direction of the curve. To understand why this trade is so horrible, we need to understand futures contracts.



Contango
To illustrate the concept of contango let's look at the traditional formula for a futures contract:

Spot + (cost of carry - carry return)

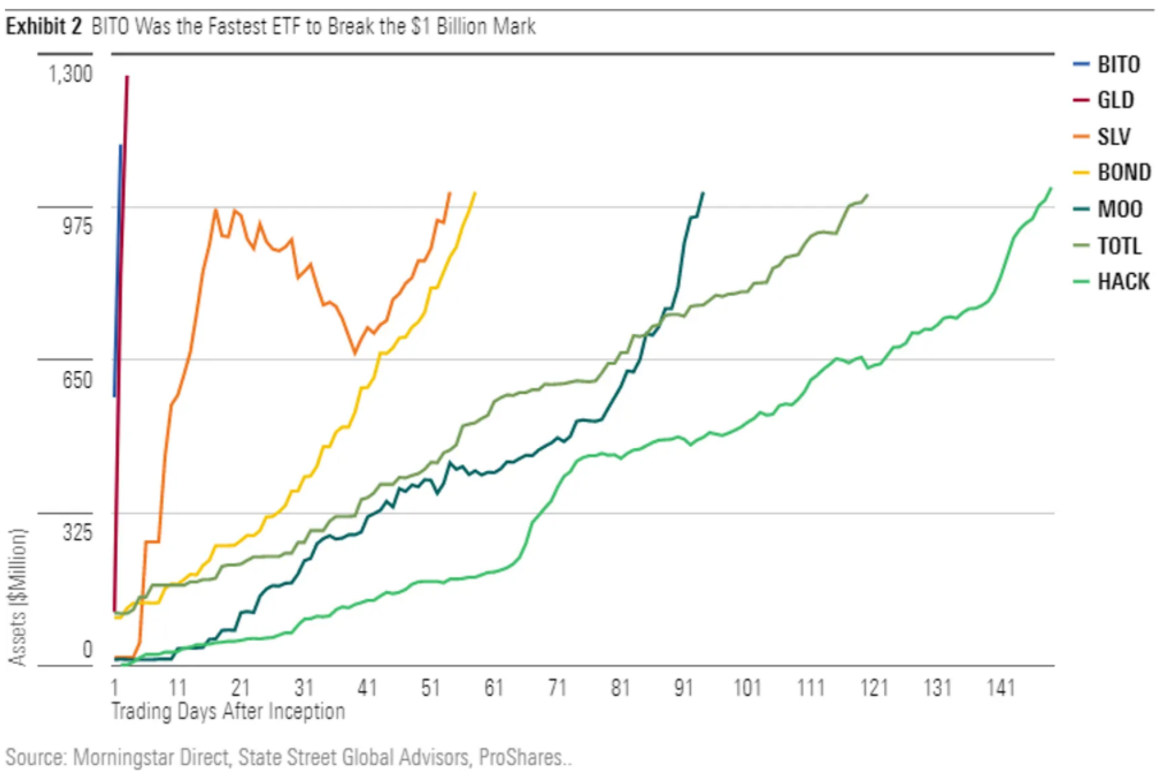
We can think about oil futures to understand why contango occurs. There is a cost to holding and storing oil over the course of the contract (cost of carry), which means that the cost to hold oil until expiration needs to be priced in. Thus, futures price > spot price

Backwardation
Backwardation can be illustrated with a dividend paying stock. Using the same formula as before to calculate the futures price, we can think about someone who is forgoing holding the stock today to buy in the future (ie. long futures contract). In this scenario, the long position is losing out on potential dividends, thus the **carry return > cost of carry**, meaning that the futures price will be less than spot price.

How this Impacts $BITO
Backwardation can be a good scenario for $BITO’s strategy - essentially creating a buy-low sell-high trade over time. The thing is, BTC has mainly traded in contango due to there being greater demand to hold long positions compared to short. This creates an adverse environment for the futures rolling strategies.

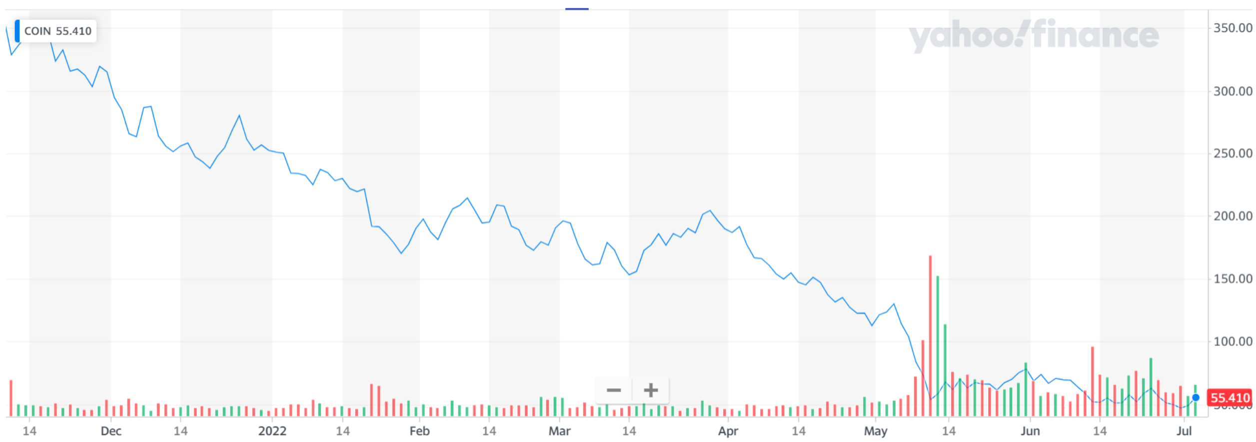
And how much does this premium eat into returns? Horizons ETF company recently launched a front month rolling futures ETF and have back tested data to 2017. The outperformance by spot BTC is almost comical–for the user holding shares in the ETF, down roughly 17% over the 4 ½ years. A spot BTC position is nearly up 17%. There is just too much left on the table to justify investing in these rolling futures indices.
The futures curve is currently in a slight **backwardation**, which as we mentioned is beneficial for $BITO. However, the downside to this is that the $BTC curve only goes into backwardation if we are in a very bearish trading environment.

With all the above said, $BITO still hit it out of the park at launch. Although it helped it was launching at one of the most bullish periods from the last run, the fund saw the fastest ever accumulation to $1 billion in AUM for ETFs:



Conclusion on $BITO
To the same tune of $GBTC, we find $BITO to be an inefficient way to gain $BTC exposure. Equity market traders will be looking to take advantage of high volatility that comes with this futures ETF, but anyone looking for a general long-term position in Bitcoin should yet again wait for a more efficient fund.

Coinbase
Coinbase's stock performance over the past 12 months has been about as horrendous as it gets. After shares began trading at $381 on April 14th of last year, they've fallen off 86% to $52 today. YTD return has literally been down only:



Yahoo finance

Coinbase is not alone: **everything** looks horrible. But still, it is hard to imagine a worse point in time for a company to go public.

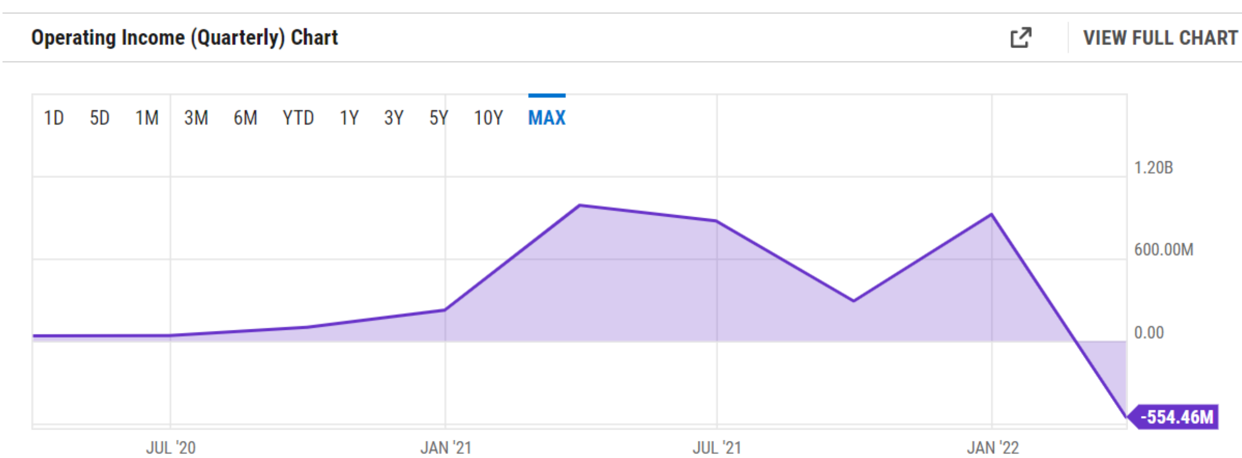
Basic Info
As an exchange, Coinbase's revenue is derived from trading volume. They charge ludicrous fees compared to other exchanges, yet somehow have amassed a massive user base of **98 million**. I guess a clean and simplified UX really can't be discounted these days. The exchange currently sits around an $11 billion market cap off from a high of **$76 billion** in November.

Coinbase has been getting absolutely flamed by CT recently for their terrible execution of the NFT marketplace and seemingly lack of basic crypto knowledge from CEO, Brian Armstrong:

And the bad PR doesn't end there. The company has [signed a contract with U.S Customs and Immigration Enforcement Agency](#) (ICE), selling specific user data, even after claiming they never sold any data to third parties. Considering a large majority of the big wallets in crypto like to stay anonymous, it is hard to picture a future where any of them will be using Coinbase.

Earnings

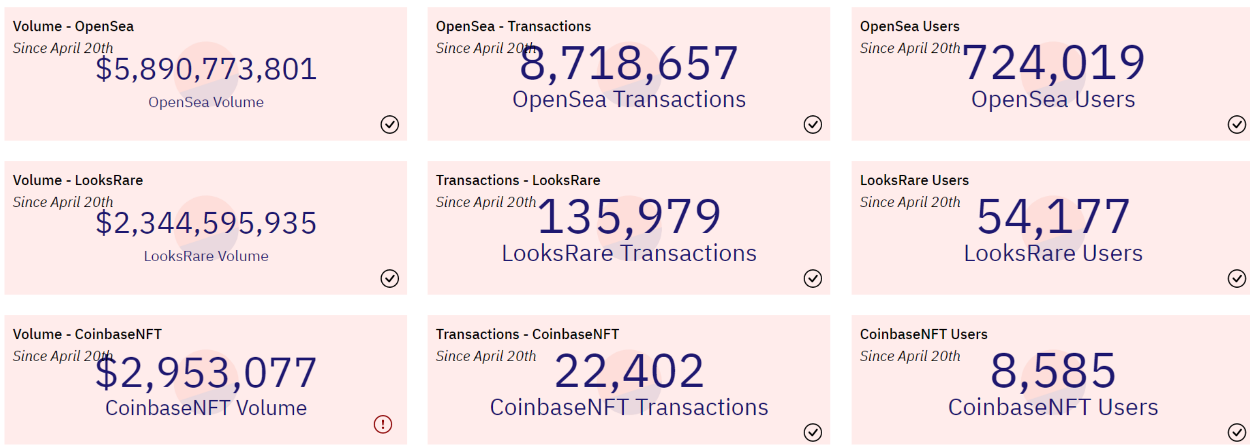
Earnings have been quite explanatory for Coinbase's price performance recently.



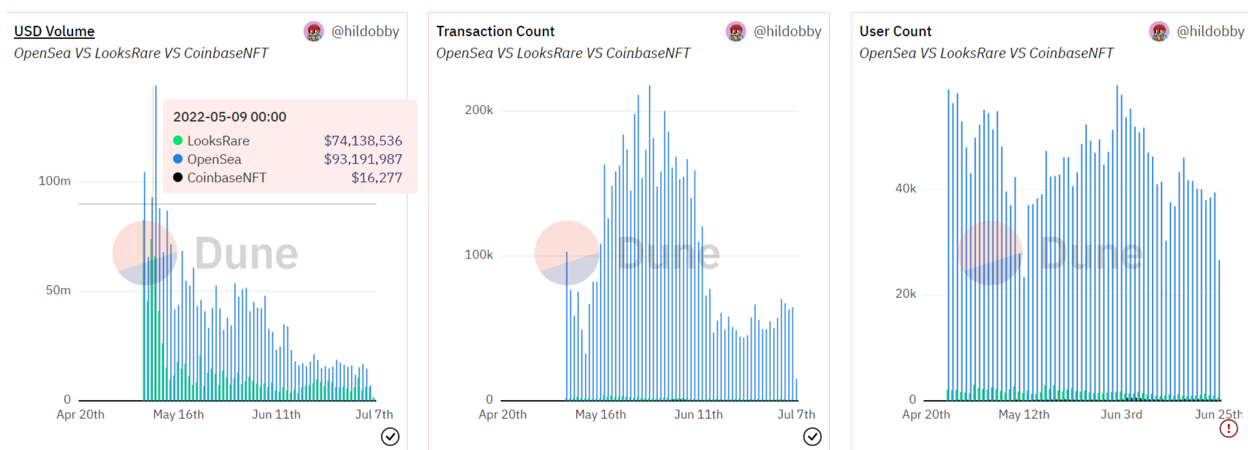
Coinbase NFT

As mentioned, Coinbase has been getting put under the spotlight in terms of its NFT product. Attempting to create a new marketplace, which if successful, would allow Coinbase to be the one stop shop for all things crypto related: NFTs, DeFi (currently in the works as well), and trading.

Unfortunately for the company, their marketplace has not quite lived up to its potential. After flopping on launch day by accruing no significant transaction activity, nothing has ramped up. In compariosn to OpenSea and LooksRare, the two leading marketplaces for NFT transactions, Coinbase is undoubtably insignificant:



The team is planning on continuing to build out the product, and actually did launch a slew of new features to the program in May. [According to Decrypt](), the total expenses of these long-term projects only take up 10% of the company's budget. So, it may not be as much of a money suck as Twitter users are claiming it to be, but we can't see it continuing on for too long when charts of volume transaction look like this:

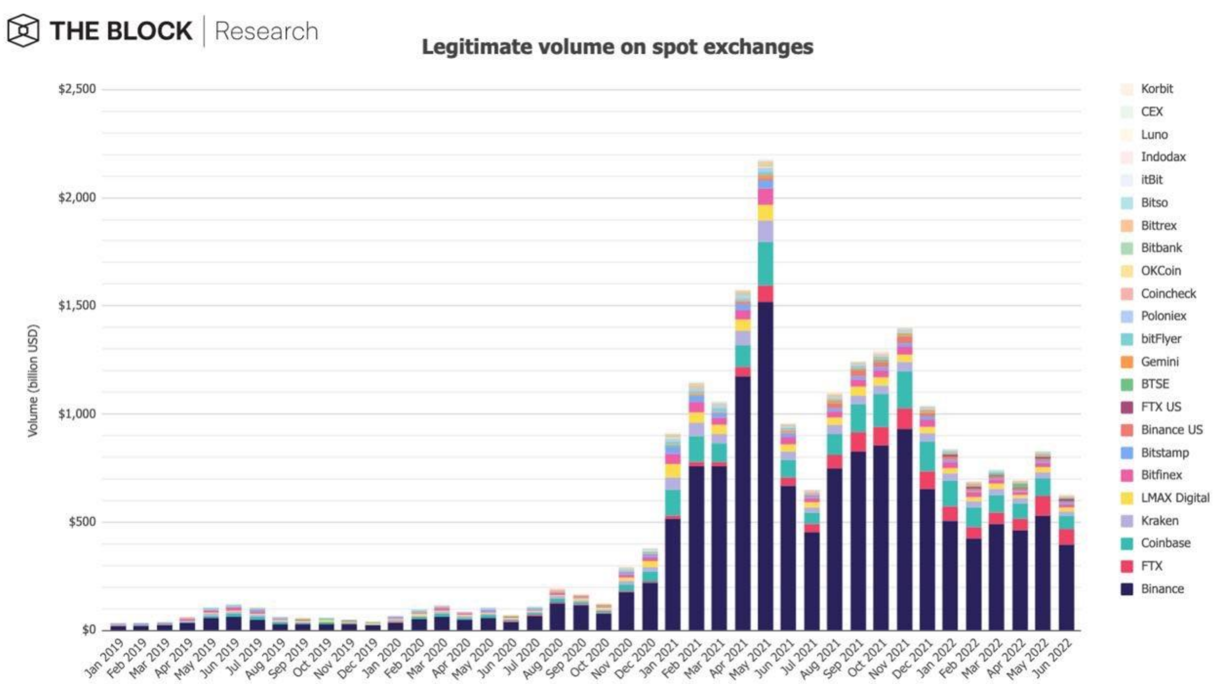


OpenSea
LooksRare
Coinbase (CB is black, you just cannot see it)

Competitors
Competition may prove to be the biggest headwind that Coinbase is facing. Although it was founded **7 years before FTX**, Sam Bankman Fried has proved his worth with his relentless acquisition of distressed companies in this bear market.

One of the most important things that should be thought about is FTX possibly buying Robinhood. Robinhood is a terribly run company, yet was able to single-handedly bring on millions of retail investors during 2021. If FTX comes out of this bear market looking more like a full service banking and exchange crypto-native solution, which it seems like it will, Coinbase will be in a tough position to compete.

In fact, Coinbase has been losing it's position in total monthly trading volume to FTX recently:



Source: the Block

Looking at that chart brings another name to the conversation: Binance. Binance has been the leader in trading volume since crypto became somewhat normalized. Commanding an early dominance of the futures market, it makes sense that the majority of trading volume would be held there. As users go to Binance to take part in futures trading, there will be less incentive for them to pack up and head to another exchange like Coinbase.

Coinbase Conclusion
Our outlook on Coinbase can be simplified to a couple key points:

- Competitors are strong and plentiful.
- CB is trying to differentiate through product offerings, but continues to flop in the eyes of CT, likely resulting in a steady burn of cash
- Trading fees, a large source of revenue for the firm, are going to have to come down over time
- Likely to face regulatory clamps due to the large number of altcoins they list and promote on their exchange

In addition to all of this, growth stocks and equities in general, have shown strong correlation with crypto assets the past 2 years. $COIN doubles down on that correlation, with a potentially lower ceiling of growth.

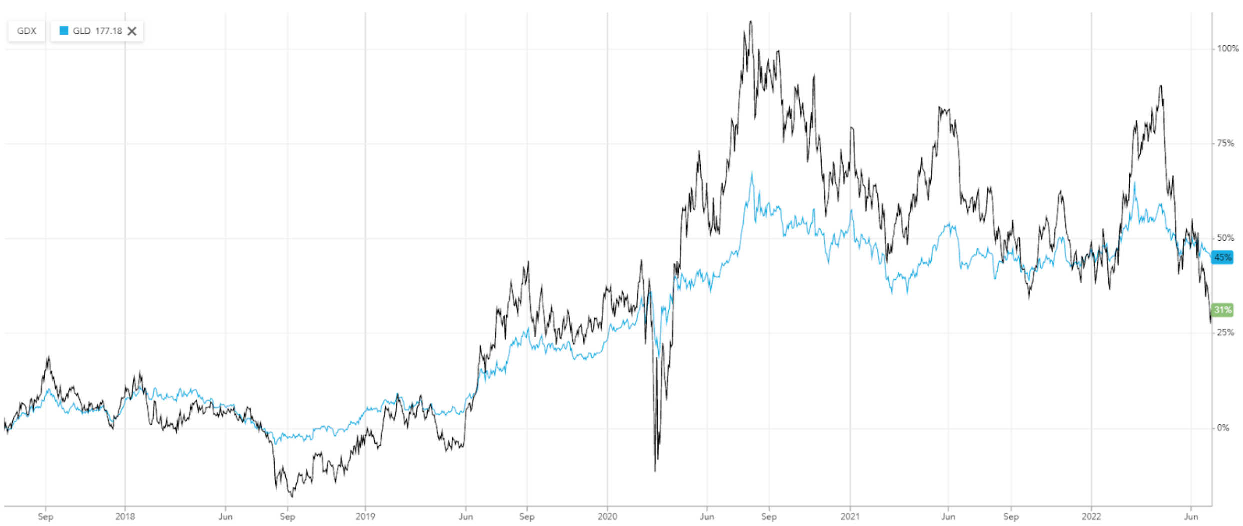
BTC Mining Stocks

Gold vs. Gold Miners

To grasp the differences between the mining companies and bitcoin itself, we can look to the physical version of $BTC, gold. Physical gold and mining companies are completely different investments. While the gold itself is a tangible, robust asset, the mining companies are highly leveraged businesses that face more business and market risk.

Mining companies will take on significant debt to be able to operate, and the operations are by no means a surefire success. The exploration for a profitable deposit often ends up failing. And because of the high leverage, management is a crucial component to the success of these companies, so individual stock pickers could face more pressure to find the right management team. Lastly, a benefit to holding the mining shares as opposed to physical gold-backed equities is **dividends**, the distribution of company earnings.

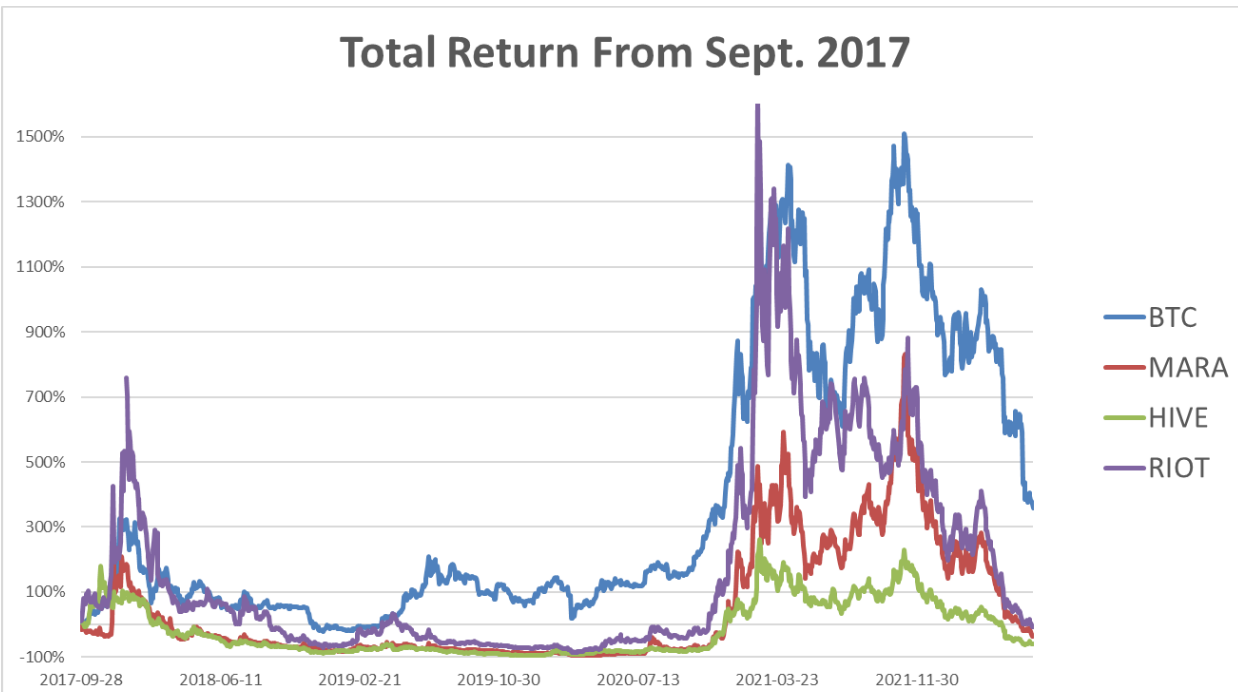
All of this, the leverage and higher risk, can be visualized through a long term price chart of the SPDR Gold ETF ($GLD), which holds physical gold in the trust, and the VanEck Mining ETF ($GLX).

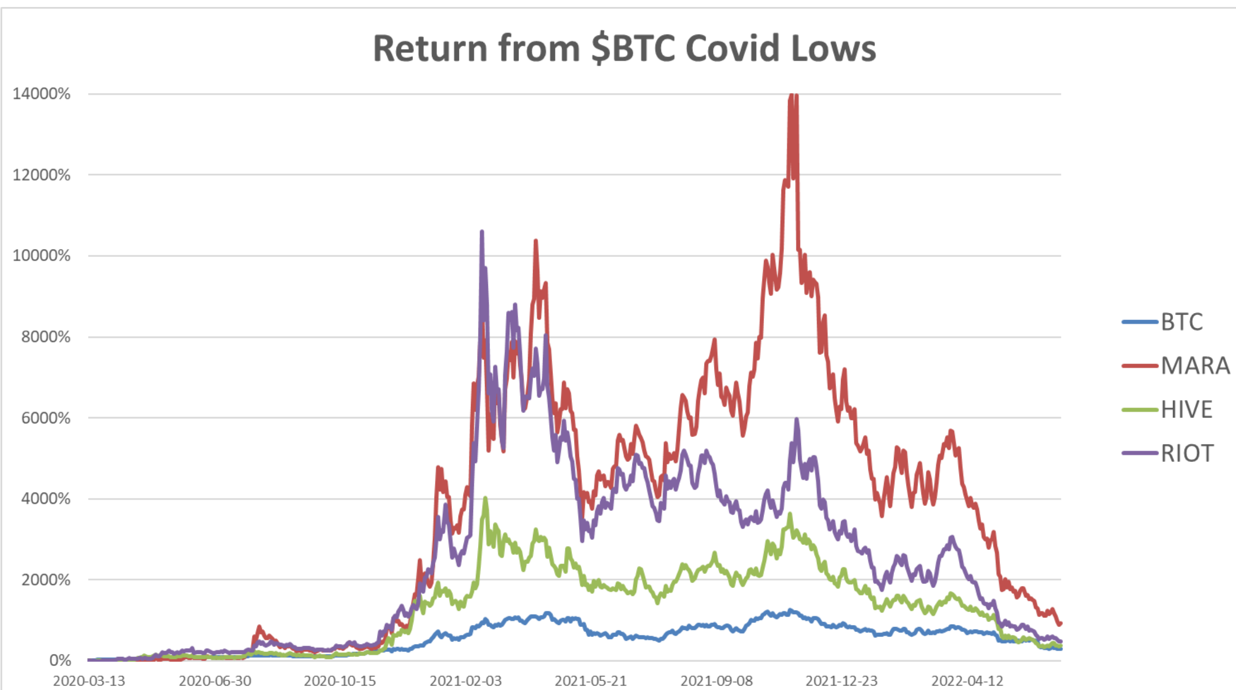


It is not a surprise that the two funds track one another, but notice how quickly the mining shares can breakaway from the gold ETF in both positive and negative directions. For an active investor trying to make educated decisions to time the gold market, $GDX would be able to provide outsized returns. The passive investor, however, will clearly be better off holding $GLD through less volatility and a higher long term return.

Bitcoin Mining

Despite all the differences between physical and digital gold, the thesis of mining shares being a 'leveraged bet' on the underlying asset holds quite well. Below are three charts comparing three popular mining companies: Marathon Digital Holdings ($MARA), Hive Blockchain ($HIVE), and Riot Blockchain ($RIOT), with $BTC. The necessary commentary will be underneath the charts. Data is taken from Yahoo Finance:





As we can see, the mining companies generally track $BTC, but make more pronounced moves in the short term. From the Covid 2020 lows, all 3 mining stocks **massively** outperformed BTC, with $MARA leading the way at nearly a 14,000% increase.

Since then however, the companies stock prices have done something similar to that of 2017: underperforming $BTC in the current YTD.

This data should be able to simplify the thought-process and allow a self-aware investor to make a decision on whether mining stocks are appropriate for their portfolio. While there can be outpormance (both in shorting or longing) at certain times, over the long time period $BTC is the clear winner.

Regulation and Energy Costs
We are by no means experts in mining companies, but these aspects must be considered when evaluating the prospect of bitcoin miners.

Regulatory oversight poses critical risks to how these businesses may be run in the future. Consider a company that is planning to expand its mining operation to increase its hash rate. A typical project of this nature would require a medium term financing plan of at least 5 years. Now, consider the fact that China outright banned all mining operations within its country. Without the ability to produce bitcoin, the project will likely bring the company underwater.

The U.S regulatory environment is vastly different from that of China, but the premise here is the same: **all bitcoin mining operations have very high regulatory risk exposure.**

Rising energy costs have without a doubt been bringing down the bottom line for companies heavily reliant on energy. If this continues, don't look for the profits of these companies to improve.

BTC Price Exposure
In order for these companies to turn a profit, they need to be able to sell off their $BTC at a price that goes well beyond covering expenses. Unfortuantely in bear times like these, that becomes increasingly difficult. By keeping a treasury filled with $BTC reserves, the companies can hopefully have a large enough stockpile to survive a prolonged bear market.

Conclusion on Mining Stocks
While a niche area of crypto investing in and of itself, mining companies could prove to be a useful short-term play in stock market accounts. In an effort to reduce management risks and other company specific expore, investors could look to mining ETFs.

Two of the most popular being Valkyrie ($WGMI), which focuses on sustainable energy operations, and VenEck ($DAM). Both had a very recent launch, so data availability is low. If there are enough prospects that engage in sustainable mining solutions, $WGMI could be a better long-term play to support mining operations.

Concluding Thoughts
In short, the public options for crypto exposure do not seem promising at the moment:

- Funds with exposure to crypto assets are inefficient, have high management fees, and utilize inefficient trading strategies because of regulatory constraints
- Coinbase, as the only publicly traded exchange, faces too many competitors and is continuing to fumble its headstart in terms of user base
- Mining shares have massive regulatory risk compared to crypto assets, and there is not enough of a gain on dividend yield to justify holding shares over just holding $BTC over the long term

Despite many of us wanting to access exposure to crypto within traditional brokerage or our individual retirement accounts, it will likely prove to be a better move in the long term to simply wait for a spot Bitcoin ETF.

Mining shares are an interesting approach for someone wanting to get some sort of divergence from $BTC performance. However, the massive outperformance over $BTC during this past bull may prove to be a one-off situation rather than a consistency.

Regardless, everything in this space is still uncharted. We are facing a crypto bear market coinciding with a recession and massive global uncertainty unfolding day by day. Things could continue to get worse before they get better. And most importantly, the golden rule in crypto is that **everything is HIGHLY correlated with bitcoin.**